

Connecting for soil health: Program summary

March 1, 2018

Farmers learn with and from other farmers. To improve soil and water quality in Ontario, there is a tremendous opportunity to support farmer leaders in their own research and peer-extension work related to cover crops, min-till and amendments. Farmers understand the barriers to these practices more than anyone and are the single most important part of the solution(s) for soil health in the province. In 2017, the Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) and several agricultural organizations supported the Ontario Soil Network. Run under the Rural Ontario Institute, it was a one-year pilot program to connect and learn how to better support 'soil-first' farmers to influence the industry. Thirty outstanding Ontario farmers participated in a 2-day workshop and a 10-month leadership challenge in 2017-2018 (**see Appendix A**). They ran field days, on-farm research, spoke to agricultural groups, were profiled in the media and hosted informal shop talks. In tracking their time and influence, the results were incredible:

- 600 one-on-one conversations with farmers & 200 with industry reps
- 55 'spontaneous' group chats with 400 farmers & 70 industry reps
- 18 'organized' Let's Talk Soil group conversations with 180 farmers in Jan/Feb 2018
- 80 speaking engagements reaching 6000 farmers & 2000 industry reps
- 40 field days reaching 700 farmers & 100 industry reps

"Over the past decades, there has been a huge reduction of budget and field staff [for agricultural extension] But, much like farming, just because we have less doesn't mean we can't do more and doesn't mean that we can't be more." - Dave McEachren, Glencoe area farmer, steering committee

Abraham Maslow is often quoted: *If all you have is a hammer, everything looks like a nail*. If cost-share is the only solution for soil health on the table, we may tend to see the problems and barriers as merely a lack of money to implement soil building practices. But as the farmers in the Ontario Soil Network described in their workshop on February 16, 2018, solutions to soil health in the province seem complex. (**see Appendix B**)

1) Agree that we have a problem

- Understand and own the problem, *everyone* has an environmental footprint
- Clarify the existing mixed messages and set a clear goal

2) Acknowledge that these practices pose risks to farmers

- Minimize production risks ie. transitional insurance
- Increase access to better equipment – work with equipment dealers and custom operators
- Bring landowners into the equation ie. property tax rates related to a renter's farming practice
- Consider life-stage of farmers and support soil health as part of succession planning
- Changing the aesthetic of 'good farming' in media images and culture
- Better understand the economics of cover crops, min-till and amendments

3) Think bigger picture

- Change the rules of the subsidy game ie. modify crop insurance and BRM to support soil
- Leave room for complexity and involve on-farm researchers who can do 'systems' thinking

- Adapt cost share programs. Consider pay for performance instead of prescriptive practices
- Engage industry and agronomists more meaningfully in soil health
- Support farmer knowledge creation instead of 1-way flow of knowledge
- Break down silos between ministries and with farmers through intentional relationship-building
- Diversify and strengthen local processing and markets for diverse crops

Culture shifts, one conversation at a time. Farmer participants believe a peer-to-peer approach, though it may take a long time, will create meaningful shifts in Ontario agriculture because farmers are better messengers to their peers than any ‘authority.’

Based on the final program evaluation, all participants connected with new people through the network and intended to continue their leadership activities related to soil health beyond the program. They hope the program will continue (moving to eastward as well) and had suggestions for how to improve going forward:

- They saw the value in the informal chats, both to themselves and to their neighbours
- Farmers didn’t want to be perceived as experts or champions but as *facilitating group learning*
- Participants wanted more group meetings with each other to keep momentum going
- The biggest barrier to participation was lack of time available
- They wanted support to run research trials and have access to advanced knowledge networks
- The coordinator position(s) was key and should be funded, along with financial support for initiatives that farmers wish to accomplish

Internally, the goals of the pilot were to increase the knowledge, confidence and motivation amongst participants. Participants completed a self-evaluation at the beginning, middle and end of the challenge in which they assessed, on a scale of 1 to 10, their knowledge of soil health practices, their confidence in public speaking and their networks along with their motivation for leadership. Overall, self-assessment scores improved by an average of 13%, ranging from 0 to 30%, varying with reported levels of involvement.

- Soil & practical knowledge increased 13%,
- Confidence in speaking by 15%,
- Improvement of networks by 8% and
- Motivation for leadership by 14%

Agricultural organizations were generous with in-kind contributions. The Let’s Talk Soil media campaign was supported through \$45,000 worth of donated ad space in Country Guide, Ontario Farmer, Better Farming, the Grower and more, thanks to the OFA, IFAO, OFVGA and GFO along with an exceptional contribution from Country Guide. Thank you to everyone who made the Ontario Soil Network happen this past year!



Appendix A: Ontario Soil Network 2017-2018 participants



~30 farmers and 10 support crew

Back row(s): Tyler Vollmershausen, [Colin Little](#), Thomas Farrell, Mike Buis, Gerard Grubb, Doug Patterson, Randy Dykstra, Adam Ireland, Woody Van Arkel, Jordan Poelman, [Deanna Nemeth](#), [Tatianna Lozier](#), Alan Willits, Steve Sickle, [Ross Wilson](#) (hiding behind Steve!), Tyler Papple, Ken Laing, Matt Smyth, Rob Luymes, Alan Kruszel, Mike Lishman, Keith Martin, [Mel Luymes](#), Gord Green, Charles Emre. **Front row:** [Anne Verhallen](#), Kristine Hammell, [Dorienne Cushman](#), [Christine George](#), [Tori Waugh](#), [Catherine Van Arkel](#), [Jessica VanZwol](#), Joanne Feddes, Warren Schneckenburger, Brett Schuyler, Doug Rogers, [Jake Munroe](#), [Laura Van Eerd](#), Rick Kootstra. **Absent:** Dave McEachren, Don Lobb, Sara Wood, Ken Nixon, [Betsy McClure](#).

Here is a new generation of spokespersons for the soil, the Ontario Soil Network. While they demonstrate super commitment to soil care at home, being a spokesperson is a huge challenge for many. They are persisting. They are on an endless learning journey. They are gaining confidence. Success of government soil health/soil care programs is contingent on people like this. Governments can facilitate and support initiatives, but it is the farm innovators and spokespeople who ultimately set the bar and bring lasting action.

-Don Lobb, Soil Conservation Council of Canada

Appendix B: Workshop Notes

The Ontario Soil Network workshop on February 16, 2018 brought together 75 people: 27 farmers, 24 OMAFRA policy and program staff, two AAFC staff, two University of Guelph researchers, six Conservation Authority staff and 14 agricultural industry stakeholders, including OSCIA, GFO, CFFO, OFA and Ontario Pork.

The day included two farmer panels discussing the barriers and solutions to soil health in Ontario and a keynote presentation from Dennis Frame, founder of Wisconsin Discover Farms and currently supporting farmer-led watershed conservation groups like Yahara Pride Farms. The day concluded with a break-out discussion in groups, reporting back to the whole. The day’s discussions are summarized in the table below.

Agreeing that we have a problem	
Barriers	Potential solutions
Understanding and owning the problem	
<p>The current situation and problem is not well understood or <i>owned</i>. Soil erosion and nutrient loss are difficult to see and measure.</p> <p><i>The message is ‘your soils are degrading’ and a lot of people think well that’s not me because my yields are still increasing, even though farmers are buying that yield with nitrogen and diesel. – Doug Patterson</i></p> <p><i>He [an American civil servant] said, ‘we already know the problem is all agriculture, so we can stop pointing fingers’. – Dennis Frame</i></p>	<p>Set a clear baseline of soil health in the province, a simple report card. Even if it isn’t 100% accurate, at least it is a start.</p> <p>Stop thinking of the problem as ‘them’ or ‘that guy.’ We are all part of the problem and we all must <i>own it</i>, even staff who live in town need to own their environmental footprint and do something about it.</p> <p><i>I make everyone embrace everyone where they’re at. No arrogance that I’m a no-tiller, I’m better than you therefore you should come to me.– Dennis Frame</i></p> <p><i>The first step to solving any problem is admitting that you have a problem. – Kristine Hammel</i></p>
Clarifying the message and goal	
<p>There are mixed messages relating to the problem and no target or goal set for soil health.</p> <p><i>At one meeting you’ll hear about soil health and how we need to decrease tillage and increase diversity and the mycorrhizae, and the next session will be about how we need a tillage pass prior to planting and two fungicide applications. – Doug Patterson</i></p>	<p>Develop clear and consistent messaging between government and agricultural organizations. Work with ag journalists so they better understand soil health and best management practices (BMPs). Synthesize the provincial soil strategy into a clear target with clear messages.</p> <p><i>We need to keep the message simple: if you till it, you kill it and then you inherit its job. – Ken Laing</i></p> <p><i>Indiana is about the same size as Ontario and they had a million acres of cover crops planted in 2016. Let’s set a goal of a million acres in cover crops next year– I’m in. – Rick Kootstra</i></p>
Acknowledging BMP risks to farmers	
Minimizing production risks	

<p>No-till and cover crops pose risks to farmers. A train-wreck in a field sends a strong negative message to neighbours to not even try the BMP. It is often said, no-till = no yield.</p> <p><i>Cover crops on our clay cause some issues: poor establishment and then delayed planting and crop emergence. – Mike Lishman</i></p>	<p>Develop specialized crop insurance for transitional period -in which yield doesn't impact production history. Many farmers don't use crop insurance and there may be alternative ways to support their transition.</p> <p>Disaster management: develop mentorship or peer-support for BMPs to avoid the train-wrecks in the first place.</p>
<p>Increasing access to equipment</p>	
<p>Cover crops and min-till require new equipment that may be daunting to try and out of reach for smaller producers to purchase.</p> <p><i>We can justify a no-till drill and strip till because we've got enough [custom] acres to run it and make it pay, but if you take an average farmer with 200 acres and he has to pay 50,000 dollars on a strip tiller, it isn't going to work, when he's already paid for the cultivator and plow in his shed. – Rob Luymes</i></p>	<p>Work with equipment dealers and custom operators to make equipment available for rent or to have affordable custom rates.</p> <p><i>In Yahara we worked with a local equipment dealer who helped them get a low-disturbance manure injector and they own it together. The dealer put a tractor in front of it free of charge. Anyone was free to try it out for 8 hours just to see if they liked it. There is also a strip till unit you can use for 20 acres, no charge. Then we get custom guys to charge \$15/acre and we provide cost share for \$15/acre. - Dennis Frame</i></p>
<p>Bringing landowners into the equation</p>	
<p>Farmland rental creates a barrier to building soil health in many areas.</p> <p><i>There is a lot of competition for farmland, and you never know when someone is going to outbid you and all the investment you put in that field is lost. In the end, we're still running businesses and we need to be profitable in order to be sustainable. – Rob Luymes</i></p>	<p>Develop a property tax rate that is based on soil health practices or performance, or another arrangement which creates similar incentives/ disincentives. This might get the landowners to pay more attention to how the land is being farmed.</p> <p>Improve outreach to landowners themselves and connect them with farmers who use cover crops and min-till.</p>
<p>Considering life-stage of farmers and succession</p>	
<p>Many farmers are too late in their careers to want to change. Inter-generational issues may impede on-farm implementation. (ie. Dad won't let me)</p> <p><i>If the average age is now 60, they've been farming for 40 years and now we're going to tell them they have to do something entirely different when they are just going to retire in 5 years anyways. Why would they take that risk? - Rob Luymes</i></p>	<p>Work with succession planners to also address soil health and support the environmental goals of the younger generation.</p> <p><i>How are we going to reach the older generation to give the younger generation a chance? I think that mentorship or these network groups might be a way to get it. – Mike Buis, 'above average' farmer</i></p>
<p>Changing the culture and aesthetic of 'good farming'</p>	
<p>There is a peer pressure on individuals to keep farming 'pretty' because the innovators are being laughed at.</p>	<p>Work to change the 'image' of farming by using photos in the media with cover crops and high residues. Run a provincial</p>

<p>They avoid coffee shops. Tillage is still encouraged by society and by landlords.</p> <p><i>Town people say, 'so and so is a great farmer.' And I think, 'well he's a pretty farmer, he likes everything tilled, clean and black,' but they don't know what that means. Conventional farmers still have that support from the larger community. – Doug Patterson</i></p>	<p>cover crop competition. Greater outreach to the public on soil erosion.</p> <p>Support grower networks as alternatives to coffee shops where they can gain social support.</p> <p><i>It is better for mental health as well, to not always be the odd one out but to have people cheering you on. – Kristine Hammel</i></p>
<p>Understanding the economics of BMPs</p>	
<p>Early adopters claim that cost-efficiency is one of the draws to BMPs but don't have enough numbers crunched to make their message credible. The majority still believe that it will be too costly.</p>	<p>Develop a grower competition for the most efficient bushel. Work with farmers to compare costs of production between various systems.</p>
<p>Big picture support</p>	
<p>Changing the rules of the game</p>	
<p>Crop insurance and risk management programs are supporting the status quo.</p> <p><i>Crop insurance means there are no incentives to build resilient soils. If you're a diverse farm, you can never trigger an AgriStability payment. – Doug Patterson</i></p>	<p>Make insurance premium rates lower or risk management payouts higher for farmers focusing on soil health; they are mitigating future risk.</p> <p>Create a Soil Commissioner of Ontario that will survive beyond the short-term political cycles and try to keep government programs accountable to soil health.</p>
<p>Leaving room for complexity</p>	
<p>Solutions are not well understood because they are complex. There is no silver bullet or cookie cutter solution.</p> <p><i>The agronomy research doesn't apply to my no-till fields – so I have to do all of my own research. - Doug Patterson</i></p> <p><i>We think that if everybody just does (insert BMP here) we'd solve it, but if everybody does exactly the same thing, we've created a different problem. There is no silver bullet. Everyone needs to look at their farming system and slip in what works for them. – Dennis Frame</i></p>	<p>Pay-for-performance funding gives farmers the freedom to develop their own solutions that work for their farm.</p> <p>Support farmers with 'systems' research that is relevant to them.</p> <p><i>I work with Ralph Martin and he is doing a research project on my field that will answer my questions and be useful for my farm. In this case, I'm figuring out how much nutrients my cover crops and my manure carry forward into a credit for the next year. -Woody Van Arkel</i></p> <p><i>We can't use a simple recipe for this type of farming, we need to understand principles. – Kristine Hammel</i></p>
<p>Creating more effective incentive programs</p>	
<p>Current cost-share funding is not supporting innovators and has red-tape and restrictions. Short funding programs create inconsistency.</p>	<p>Pay for performance program could change the perception of support from a 'handout' to 'getting paid to do a job' (or public service).</p> <p><i>To be in the Yahara cover crop program, all you'd have to do was mail back the post card, and someone would come by to</i></p>

<p><i>If we don't have an incentive for the best farmers, we're not leading anymore. All our cost share programs were rewarding the bad guys. – Dennis Frame</i></p>	<p><i>help you establish the cover crop and then the farmers got paid at the AGM over lunch. – Dennis Frame</i></p>
<p>Engaging industry and agronomists in soil health</p>	
<p>Lack of support from agronomists and industry on BMPs. CCAs knowledge of soil health and BMPs could be better.</p> <p><i>Seed companies and input suppliers push conventional farm practice because it is less risky. They don't want to see their seed fail, they want to move more inputs. - Mike Lishman</i></p> <p><i>We have too many crop advisors and too many in the broader ag industry that are focused on the short game. – Don Lobb</i></p> <p><i>The seeds we are growing are all tested on conventionally tilled fields with a lot of synthetic fertilizer and then we're selecting those hybrids and putting them into no-till scenarios where they are supposed to interact with soil biology and I don't think the genetics are quite in line with what we're expecting it to do. There's a lot more research we should do there. – Rob Luymes</i></p>	<p>Strengthen support to farmers with peer-to-peer network and include agronomists so they start to better understand what farmers are dealing with. Promote independent agronomy and increase training to CCAs on soil health and BMPs. Being in the network could offer a number of CEU credits.</p> <p>Increase agronomic training to farmers leading peer-to-peer networks. Keep these network leaders in the loop with industry and university research results (Coles notes version please!).</p> <p>Create incentives for industry and research to be a part of the solutions for soil health.</p> <p><i>I've got my pesticide license and a host of other licences too – I must be responsible for my actions. I believe a CCA must be accountable to the soil to keep his or her license. – Rick Kootstra</i></p>
<p>Supporting knowledge creation</p>	
<p>In the farming community, there is a cultural resistance to government authority & going to meetings.</p> <p>Farmers are the best messengers to their peers, but they are often busy and can easily burn out.</p>	<p>Support small local farmer networks of 'learning together' and pay farmers to deliver these (or value their time another way). Train many more to share the load.</p> <p><i>When we have neighbours that don't go to the big meetings, I think inviting them into small local groups is the way to go. – Mike Buis</i></p> <p><i>The small size is actually much better. It is not about how big, but about how small and how personal can it get? – Dave McEachren</i></p> <p><i>It has to keep its independence from the government in order to be trusted by farmers. – Woody Van Arkel</i></p>
<p>Breaking down silos</p>	
<p>There seems to be a lack of connection and mutual understanding between ministries, between farmers and commodity groups and OMAFRA.</p> <p><i>One of the barriers is that we're not thinking big enough on soil health and there aren't enough people in</i></p>	<p>Create more opportunity to build relationships. Involve farmers in policy and programs more meaningfully.</p> <p><i>We have a lot of meetings without farmers because they slow meetings down, they bring in too much common sense and real-world experience [sarcasm]. Farmers have to be there.</i></p>

<p><i>government involved, we need more ministries involved, not just OMAFRA. – Ken Laing</i></p> <p><i>I've seen OMAFRA and commodity organization staff come and go from this meeting today [Feb 16], and I get that people have commitments and things to do but sometimes we need to prioritize what we need to commit to. Doing a field service call for an hour is not committing to understanding what really happens out in the fields where farmers are. – Dave McEachren</i></p>	<p><i>And because they are giving up their job that day, they need to be paid to be at those meetings. – Dennis Frame</i></p> <p><i>One of our many ways to move forward with soil health is let's get everyone out of the office. We wouldn't have any trouble finding farmers that would open the door of their farm or their tractor or combine to welcome some industry people to come and spend some time with us. – Dave McEachren</i></p>
<p>Building markets for diversity and sustainability</p>	
<p>There are currently no market incentives to take the risk of growing cover crops or going no-till.</p> <p>There is a lack of processing and distribution infrastructure to diversify crops for soil health.</p>	<p>Develop the infrastructure needed to diversify. (ie. grazing livestock means we need more local abattoirs)</p> <p>Strengthen connections between sustainable farmers and consumers to define and provide them what they want, not merely advocating for the status quo.</p> <p><i>In order to diversify crops and livestock grazing, we need to strengthen the food processing sector through labelling laws, fair trade and creating the ability to compete. – Brett Schuyler</i></p> <p><i>If we want to encourage ecological farming, we need to have access to markets that reward us for the good work we are doing. -Kristine Hammel</i></p>

The longer we procrastinate, the worse the consequences. This is our generation and our time to make a difference. And that's right now.

- Rick Kootstra, Clinton area farmer
