HEALTHY SOILS FOR HEALTHY PEOPLE

BY: LILIAN SCHAER

In Ontario, farmers are blessed with a diversity of soils and climate conditions that allow them to grow a wide range of crops and support different types of agriculture. To varying degrees, they face common challenges related to drainage, organic matter and fertility – but also deal with conditions unique to their topography and geographic location.
This article is part of a series of profiles highlighting different Ontario farmers, their farms and soils, and how they're addressing the issue of soil health on the land in their care.

Jenn and Mike Doelman grow grains and oilseeds on approximately 1,100 owned and rented acres in the upper Ottawa Valley region of Renfrew County. They're also seed growers and beekeepers, and their crops include corn, soy, wheat, barley, canola, oats, peas, sunflower and flax. Although they used to farm together with Jenn's parents, the Doelmans, who have two young children, now farm independently and are marking their first season cropping on their own. Their land is a very heavy silty clay soil that's naturally rich in potassium and used to be part of the bottom of the Champlain Sea. Jenn is also a Certified Crop Advisor.

Challenges: heavy clay soil, drought

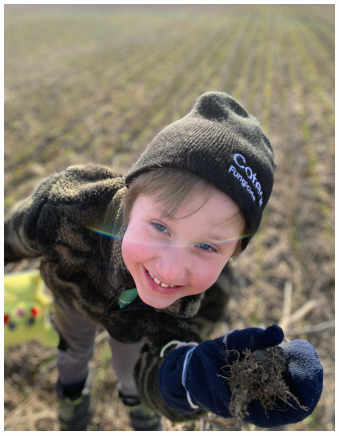
Soil health practices: no-till, rotation, cover crops, amendments

What are the biggest challenges that you face with respect to soil on your farm and how do they impact yield and productivity?

Management is always tricky. Drought is usually our biggest challenge, especially being able to navigate it and reducing our vulnerability to its impacts. How we accomplish that was our biggest challenge when farming with Jenn's parents: understanding why we need to be able to adopt certain practices and how they can improve the soil. Change is hard, but drought was the impetus for us always to improve our soil management, including changing the mindset about tillage and being objective about that.

What are some of your practices to promote soil health?

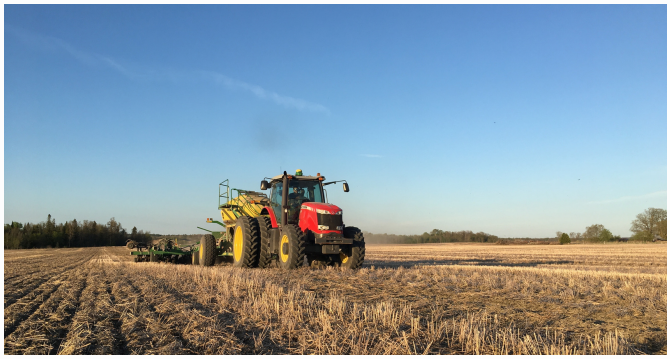
NO-TILL

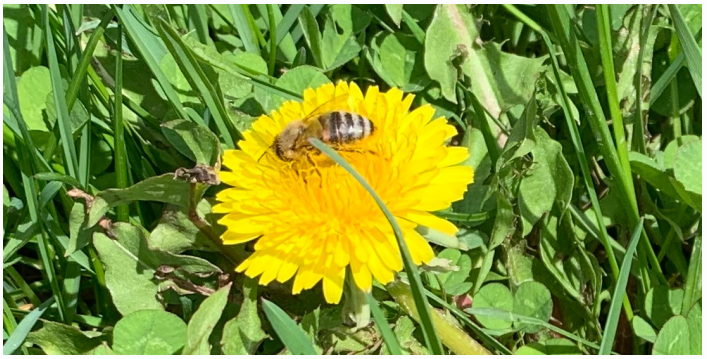


When I was a little girl, my dad got the first no-till drill in our area through grants from the local Soil and Crop Association and Ducks Unlimited. At the time, it was more about saving fuel, but the side effect was better soil health. Today, we no-till whenever possible. You need to have soil fitness with no-till and we've invested a lot in drainage. With our heavy soil, we try not to go on the fields at all when they're wet. We'll do a bit of tillage for levelling or smoothing and when absolutely necessary for residue management if it's a cold, wet spring. We're making progress.

CROP ROTATION

We take it for granted that our rotations have always been diverse. Jenn's family had a cow-calf and feedlot operation till 2000 and lost the forages from the rotation when we no longer had cattle. We did see the consequences of that over time, but the cereals in our rotation help with resiliency. Another perk of rotation is that it's good for integrated pest management.





COVER CROPS

We started into cover crops in 2012 when we suffered through the Level 3 drought. People in our area didn't have feed for their livestock so we planted a lot of annual forage but then it rained so nobody wanted to harvest it. It was on rented ground with poor soil structure and we ended up ploughing it down. It really boosted the soil structure, which was the impetus to start planting cover crops. We usually plant our seed cleanings as cover crop and we add crimson clover to fix nitrogen. We also like buckwheat if we can get it; the flowers are nice for the honeybees.

AMENDMENTS

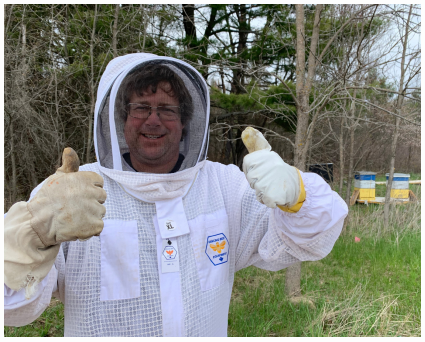
We tried to source manure but none of our neighbours want to part with theirs. We also tried to get compost from the city of Ottawa, but it's very expensive to haul it all the way out here. Now we use a small granule biosolid from Gatineau that's very rich in phosphorus, nitrogen and organic matter. We spread it after wheat, followed by lime, and then plant the cover crop. I'm seeing great response anecdotally but don't yet have all the data to make definite statements about impact.

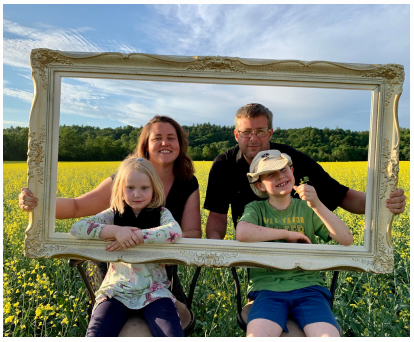
What is the most important change that you have made on your farm with respect to soil health? Or the one that has had the biggest impact?

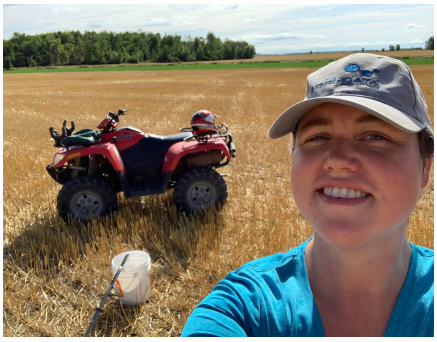
Investing in the right planting equipment. We bought a John Deere air drill where we could band phosphorus and several years ago we invested in a White no-till corn planter. It took us a long time to find one where we could drive fertilizer down in a two-by-two band and plan corn without tillage in a short growing season. We have fairly aggressive row cleaners; it's been phenomenal especially in drought because it conserves a lot of soil moisture and structure.

What advice would you have for other farmers with respect to soil health?

Start small but you have to start. Soil is like planting a tree, you need to look at this as a long term investment. Until you've tried something new, you're not going to be able to get the benefits of it.
And re-examine what you do and why you do it; because I've always done it is not a bad answer, but is it the best answer?







This project was led by Farm & Food Care with the generous cooperation of Ontario farmers.
To read the full series of Farmer Profiles including our full interview with each please visit:
https://www.farmfoodcareon.org/farming-and-the-environment/soil-health/

This project was funded by the Canadian Agricultural Partnership, a five-year federal-provincial-territorial initiative.