

# ALL GREEN ALL THE TIME TO MAINTAIN SOIL STRUCTURE AND RESILIENCE

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.

Mark Richards farms near Dresden in Chatham-Kent. He's part of Richards Rolling Acres Ltd., a multi-generational family farm that grows corn, soy, wheat, sugar beets, and processing tomatoes on mostly clay loam soils.



**Challenges:** Timely tillage and cover crop application, some erosion concerns

**Soil health practices:** No-till, strip-till, cover crops, manure application

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

Our biggest challenge is timeliness of planting cover crops and getting tillage done in time. We are 100% strip-till and no-till. In the last five to six years since we started strip-tilling tomatoes and where we have a good establishment of cover crops, we can see a difference in plant health and that's reflected in the yield. We interseed corn with a cover crop blend at the five to six leaf stage combined with side dress nitrogen. Interseeding has not impacted corn yield positively or negatively in any year.

## What are some of your practices to promote soil health?

### NO-TILL & STRIP TILL

I've been doing no-till since the early 1990s. For the last 10 years, I've been using 100% strip-till on sugarbeet and corn, except where we have to level out tile, and 90% on soybeans, except where we have to level out after tiling.

### ROTATION

We plant sugarbeets, which have a mandated rotation of three years, and tomatoes, which demand a five to seven-year rotation, so we rarely have the same crop back-to-back. We sometimes have different crops than planned in our rotation, but no back-to-back.

### MANURE

This past year I started trading straw for manure with a feedlot nearby. The theory is to put the manure on before strip-till, partially incorporate the manure, apply fertility in the strips and plant cover crops between the rows. There is a cost for incorporating manure into a low-cost system, but I've seen enough benefits from manure that you can never get from commercial fertilizers and I like the myriad micronutrients and biology that come with the manure.

### COVER CROPS

The backbone of our cover crop program is cereal rye. Because we're interseeding, we're looking at the least cost but most effective mix. We interseeded every acre of corn this past year with cover crops and side-dress nitrogen. Over the last five years, we put in rye grass with oilseed radish before the corn gets too big and although there is no yield impact, weed control is better the next year. We've tried clovers but they're expensive and don't pay off enough. Rye, oats and oilseed radish work well.



## 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?

The biggest impact has come from interseeding cover crops into corn. I didn't plan for it but it offers a higher level of weed control at a lower cost. Round Up Ready soybeans were the crop where we could clean up weeds before tomatoes and sugar beets, but higher populations of herbicide-resistant weeds makes this a less desirable option. This is one area where good cover crop establishment makes the biggest impact. The biggest change we've made has been planting more cover crops on more acres. Going to precision seeding cover crops between the strips has resulted in better planter performance and better spring emergence.

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

**Learn from others.** There are a lot of us out there who have done a lot of trial and error and although every solution won't fit every farm, there is an opportunity to learn from others. Do some trials and find out what works for your operation.

**Keep an open mind and be willing to try new things.** For those that don't subscribe to considering soil health, keep an eye out for your customers demands. Big buyers like Walmart, Conagra and others measure sustainability from seed to shelf so we want to make sure we're meeting our environmental obligations.

