



Ontario Soil and Crop Improvement Association

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Building soil structure and health yields benefits for Soil Champion

By Lilian Schaer

Maintaining and building the soil and an insatiable thirst to try new things have earned Jim Denys recognition as 2019 Ontario Soil and Crop Improvement Association (OSCIA) Soil Champion.

The honour is awarded annually by the organization to recognize leaders in sustainable soil management.

Denys is the second generation on a mixed farm in Middlesex County where he cash-crops mainly corn, wheat and soybeans, produces pork in a farrow to finish system, and sells seed for Maizex.

It was his father who first started with no-till wheat in the 1990s, eventually adding no-till soybeans into corn stalks and trying some early strip-till experiments. Planting corn into spring strips in soybean stubble worked well, but because of equipment limitations at the time, spring strips into wheat stubble was less successful.

“At the time, it was about soil conservation and stopping erosion, which no-till did much better than conventional tillage, but we wanted to do more to build the soil rather than just preserve it,” Denys explains. “No-till wasn’t building soil structure or organic matter, so we eventually started into cover crops,” Denys explains.

It was when they began with cover crops that they also gave strip-tilling another chance and found that the evolution of equipment and technology over the years, especially auto-steer, now made it much easier to do successfully.

“We started with fall strips into cover crops four years ago. This builds the soil and with not plowing the root mass under, it really holds the soil together,” he adds.

They’ve tried a few different cover crop mixes over the years but have settled on a few base crops that they like and work well with the hog manure they use on their fields – oats, rye, and radish and they’ve also had good experiences with kale and fava beans.

The cover crops used to be desiccated in the fall, but now the fields are kept green over winter, which Denys says is good for feeding soil. And he’s noticed other benefits too, especially when strip-till is added to the mix.

“We had a wet spring this past year and we found we could get onto strip-till fields about two days earlier than conventional fields nearby. They planted real nice and even with a wet fall like last year, there were no tracks,” he said. “We’re creating resilient soils and addressing compaction issues too.”

The summer was bone dry, though, and here too, Denys noticed the benefits of cover crops and strip-tilling. The ground cover between the crop rows meant less evaporation and since healthy soils have a greater water holding capacity, the land was better able to absorb and use the moisture when the rains finally did come again.

The farm also gets an agronomic boost from the livestock. Manure is spread on the fields after wheat so the cover crop can soak it up and provide nutrients to the next crop the following spring.

“Manure is a great resource for pushing production on the crops and building the soil, and cover crops are such a great fit with pig manure,” he says. “There is value in manure; cover crops let you spread it on and make use of it to grow biomass and feed the soil biology. It’s a big circle.”

Denys is keen to always try something new. He likes the idea of consistently keeping equipment tracks on the same spot so a transition to controlled traffic is underway – equipment is gradually being switched onto the same track as it is being replaced.

Variable rate fertilizer application is also in the works; Farmers' Edge created variable rate zones for their strip till fertilizer application last fall and provide daily satellite field images and data that let Denys track his crops in real time from his office.

Every farm is different, so there is no one solution that will work in every situation. The key, according to Denys, is to start small, talk to people who have experience with new practices, and avoid taking on too many new things all at once.

“The plan is to get more yield with less input and be more cost efficient,” he says. “The goal is to run a profitable business while taking care of the soil – they’re not mutually exclusive. We haven’t given up any yield with these practices and with phosphorous high on the radar now, we have to be proactive about finding solutions.”

Denys was one of two recipients of the 2019 Soil Champion Award at the OSCIA Annual Conference in Kingston in February, selected in the producer category. The other recipient was Anne Verhallen who was recognized in the research/extension specialist category.

The selection panel was very pleased to exercise their ability to present Soil Champion awards to both of these outstanding soil health advocates. Nominations for the 2020 Soil Champion can be submitted any time up to November 1, 2019. Visit ontariosoilcrop.org to learn more.

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