

Ontario Soil and Crop Improvement Association SOIL CHAMPION

Long-term cover crop research core to Soil Champion's soil health commitment

Although she's always had an interest in agriculture, it was a combination of necessity and circumstance that led Dr. Laura Van Eerd toward a career in soil science. Now, the professor in the School of Environmental Sciences at the University of Guelph Ridgetown Campus has been chosen as the 2021 winner of the Ontario Soil and Crop Improvement Association Soil Champion award in the research/extension category.

When she first came to Ridgetown in 2003, there was a strong provincial focus on mitigating nutrient and bacterial loss from fields, but the needed information was scant, she recalls.

"At the time, the need was to look at nitrogen fertility in vegetable crops. My first project was looking at cucumbers, squash, peppers and carrots and to provide those estimates for Ontario," she says.

She's still doing nitrogen fertility work in low acreage crops like sugarbeets and seed corn, but her big focus is on cover crops. That's thanks to a 2004 recommendation from Anne Verhallen, Soil Management Specialist Horticulture with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and a Soil Champion in 2019, to plant her first cover crop. It ultimately led Van Eerd to start a long-term cover crop trial in 2007 that is still ongoing.

"My research program has moved to focus less on nitrogen to more about what is happening in terms of carbon storage - we've definitely seen increases in carbon storage and soil health with cover crops in the medium-term," she says. "With the changes in soil health, are we seeing resiliency or protection from drought stress? I'm getting more convinced as I look at the data after a decade of cover cropping about the value in tough years."

A chance for a sabbatical in 2013 offered the opportunity to study a soil health dataset Verhallen and Adam Hayes, long-time OMAFRA Soil Management Specialist in Field Crops and Soil Champion in 2014, had accumulated from long-term trials in Ontario. Van Eerd became among the first to publish about soil health in Canada at a time when publishing soil 'health' raised concerns from some in the scientific community.



Laura Van Eerd, Soil Champion 2021 in the research/extension category. Photo by Bernard Tobin.

Another standout-career moment is more recent, when Van Eerd was invited to write the soil health chapter in an Introductory Canadian Soil Science textbook, which is expected to be released later this year.

The biggest challenge she sees with soil health is its complexity. There is no single solution; instead, it requires a whole-system approach and it takes time to see results. More uptake of sustainable soil practices could happen, she believes, if the focus turned more towards boosting soil resiliency so that good yields are possible even in years challenged with drought or too much moisture.

"Start small but start now. There are many different management practices that can enhance soil health and while there is no one solution that fits all, there are steps that can fit into your farming system," she advises.

Van Eerd is also one of the Co-Executive Directors of Soils at Guelph and serves on the executive of the Midwest Cover Crops Council's annual conference.

"When I look at the list of Soil Champions before me, I'm in awe; this is good company and I feel honoured to be part of it," she says, adding she's looking forward to having the actual award - a baseball bat with a plaque - in her office, like the two she has seen many times displayed by Verhallen and Hayes in their offices.

Van Eerd acknowledges the recognition wouldn't be possible without a strong research team, which includes her technicians Sean Vink and Mike Zink, and the many graduate and undergraduate students she has worked with over the years.

Grain farmer Henry Denotter was the other recipient of the 2021 Soil Champion Award, selected in the producer category. Nominations for the 2022 Soil Champion can be submitted any time up to November 1, 2021. Visit ontariosoilcrop.org to learn more.

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