



In search of crop diversification

How effective is a cover crop's contribution to soil health?

| Janan Shoja Doost

Soil health plays an important role in the success and yield of any crop. But how can soil health be improved using natural methods, and how effective are these proposed methods?

That's what Prof. Claudia Wagner-Riddle and her team in the School of Environmental Sciences (SES) are trying to quantify. They want to understand changes in soil health after introducing rye, brassica, legumes, radish and grass — cover crops that add biomass to soil. Cover crops may use additional water. But adding these cover crops to annual corn-soybean-wheat rotation could improve soil health by building up nutrients.

This is the first such study using lysimeters, which normally measure water flow and nitrate leaching in soil. The U of G researchers are using the devices to determine how diversified crop rotations along with cover crops help soil health.

The researchers hope to help producers grow more grain and improve productivity through use of cover crops.

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Collaborators include plant agriculture professor Bill Deen and SES professors Kari Dunfield and Aaron Berg, as well as researchers at Western University, University of Toronto, University of Saskatchewan, the Ontario Soil and Crop Improvement Association, Hoskin Scientific and the OMAFRA soil group.

A lysimeter structure as it appears above ground, and (inset) beneath the surface, at the Elora Research Station.

