

BRUCE HUDSON



Left to right: Graham, Leigh and Bruce Hudson

At A Glance

Farmer Name: Bruce Hudson

Location: Ottawa

Type of Operation: Swine, cash crop and vegetable

BMP: Comparison of using an organic amendment (liquid hog manure) and a cover crop.

Soil Health Goals: To optimize management and tillage to improve productivity.

ONFARM COOPERATOR PROFILE

OVERVIEW

At Panmure Farms Ltd., the only federally licensed pork producer in the City of Ottawa, brothers Bruce and Brian Hudson “don’t shy away from trying new things,” Bruce says.

The sixth-generation producers run a diverse farm, which includes a 200-sow farrow-to-finish operation and about a 1,000-acre cash crop and vegetable operation. The Hudsons grow corn, IP and crush soybeans, cereals, sweet corn, and other vegetables.

The Hudson family are long-time supporters of the Ontario Soil & Crop Improvement

Association (OSCIA); Bruce’s father Graham was involved in the association and now Bruce’s daughter Leigh serves as Secretary of the Ottawa-Carleton Soil & Crop Improvement Association. So, when Scott Banks approached Bruce about participating in the On-Farm Applied Research and Monitoring (ONFARM) Program, he was willing to get on board. Bruce got to know Banks when he worked as a Cropping Systems Specialist with the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA); now, Banks works with the Soil Resource Group (SRG).



What Is ONFARM?

The On-Farm Applied Research and Monitoring (ONFARM) project involves 25 sites across Ontario testing the effects of best management practices (BMPs) on soil health and agronomic indicators over three field seasons.

ONFARM Data Collection

- Investigators led by Don King, Principal and Research Agronomist at the Soil Resource Group (SRG)
- Soil health indicator tests: physical, chemical and biological measurements
- Other baseline soil data: horizons, texture, drainage class, structure characterization, and soil type
- Field landscape and soil degradation assessments, agronomic monitoring and best management practice (BMP) costing

THE PROJECT

In his ONFARM BMP trial, Bruce compares the use of an organic amendment (liquid hog manure) and the use of a cover crop. The field site is a simple hillslope on a gently rolling landscape on a silt loam soil.

“The field is good quality on one end, but the other end has half the organic matter and a different soil type,” Bruce says. So, he is “curious to see if we can see some change over the length of the field.”

In the summer of 2020, after his harvest of spring wheat, Bruce began his ONFARM trial. He had a total of four treatments in two replications. The treatments were as follows:

- Untreated check (i.e., he did not apply hog manure or plant cover crops)
- Liquid hog manure at 2,700 gallons/ac
- Cover crop mix (peas, radish & oats) at 38 pounds/acre
- Liquid hog manure at 2,700 gallons/ac + cover crop mix (peas, radish & oats) at 38 pounds/acre

All other field management practices remained consistent across the trial.



Understanding Field Research Terms

- Treatment: Refers to the single management practice that changes across a trial. In this case, for example, a treatment is hog manure.
- Replication: Repetition is key to be able to compare treatment results. So, you want to apply each treatment in more than one section of a field. The number of times each “grouping” of treatments is repeated in a field is known as a replication. In this case, for example, Bruce applied each of his four treatments in two sections of the field, or two replications.

CHALLENGES & EXPERIENCES



One of the challenges for this trial is that Bruce relies on a custom applicator for manure spreading, so Bruce depends on his custom applicator's schedule. As a result, Bruce applied his hog manure on Sept. 1, 2020 and seeded the cover crop on Sept. 4, 2020, even though he had harvested his wheat in mid August. Despite the later cover crop planting, though, Bruce says he “got a pretty decent catch” on all three species. He was surprised with the cover crop's growth in the fall.

“We're very new to cover cropping,” Bruce says. In the past, he used wheat as a nurse crop for red clover. Through the ONFARM trial, he is using the cover crop to help secure the nutrients from the manure application for subsequent cash crops. Bruce thinks he can justify the cost of the cover crop seed, given the benefits it brings for his soil.

In fact, he planted a total of about 70 acres into cover crops in 2020, even though only 20 acres are part of the ONFARM trial. Bruce wanted to give this approach to cover cropping “a good try,” he says.

As these species are all annuals, they winterkilled, so Bruce did not have to worry about an extra herbicide pass to prepare his 2021 seedbed. He will, however, do a spring cultivator pass; as his soil is a silt loam, it “needs to be broke to dry out,” he says.



The Benefits Of Participation

For Bruce, a key benefit is his interactions with other cooperators. For example, he visited Duncan Ferguson's ONFARM trial in Williamstown. Bruce was impressed to see the growth Ferguson had with his early seeding of cover crops after his spring wheat.

NEXT STEPS

In 2021, Bruce plans to interseed a late cover crop into his corn. He has been reading about options and learning from other farmers' successes and challenges with this practice.

"I'm open to suggestions," Bruce says. "I'll work with Banks and the rest of the ONFARM team to see what they want to do, and I'll try my best to adapt."

Ultimately, Banks and Don King, Research Agronomist and Principal at SRG, will support Bruce in making his 2021 cover crop decisions. Bruce has two options for getting his cereal rye cover crop to grow late in the year, King explains. Either Bruce can interseed by dropping the cereal rye between the corn rows late in the season or drilling in the cover crop after corn harvest. Often, the challenge is access to the equipment necessary to interseed the cereal rye to give it more of an opportunity to get established in the fall.

Bruce encourages other producers to give cover cropping a try by starting small.

"Our ground is in pretty decent shape, but I think we all have to admit that we have to take better charge of our soils. I think there is a lot of learning to go yet. Everybody has a recipe but (a single recipe) does not work for everyone. You have to develop your own system that works for you," he says.

