

KEN SCHAUS



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At A Glance

Farmer Name: Ken Schaus

Location: Elmwood, Bruce County

Type of Operation: Beef cattle and cash crop

BMP: Comparison of an organic amendment (beef manure compost) and a multi-species cover crop.

Soil Health Goals: To reduce compaction and water erosion, reduce fertility inputs and quantify benefits.



COOPERATOR PROFILE

OVERVIEW

For Ken Schaus, a farmer in Bruce County, the biggest benefit in his participation in the first year of the On-Farm Applied Research and Monitoring (ONFARM) Program was the thorough data collection on his trial site. This first-year data will serve as a baseline, so that Schaus and the ONFARM team can track how the treatments in his on-farm research trial have advanced the soil health status of this field.

Schaus is in the cattle feeding business, with feedlots in Walkerton and Alliston and a grazing operation in the Bruce Peninsula. He also has a 3,500-acre cash crop operation with a corn-soybean-wheat rotation, and grows some hay.



Schaus farms both owned and leased land, and uses the same management practices on all acres.

Some of the biological soil health tests being measured through the ONFARM data collection are “suggested to be a bit more sensitive to changes resulting from cover crops and organic amendments,” says Don King, Principal and Research Agronomist at the Soil Resource Group (SRG). So, hopefully the researchers will get indications of the soil health benefits of organic amendments and cover crops sooner.



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

As Schaus has ready access to beef manure compost, his ONFARM trial compares the use of this organic amendment with the use of a multi-species cover crop. The field site is a rolling, hilly landscape with convergent draws on a clay loam till soil.

In the first year of the study (2020), Schaus grew a winter wheat crop under no-till management.

After harvest, he began his ONFARM BMP trial. In one treatment, he applied solid beef manure compost at 3.2 tons/acre. In the second treatment, he seeded a 12-species cover crop mix, which included brassicas, clovers and grasses, at 37 pounds/acre. All other field management practices remained consistent across the trial.

Schaus and his team created the cover-crop mix in-house. They learned about cover crop mixes through on-farm trial and error, Internet research, and by drawing on their local network.

“Every year, (the cover crop mix) is a bit different,” Schaus says. The recipe depends on such factors as when they are able to seed the cover crop after the harvest of the cash crop; some cover crop species take longer than others to produce a sufficient stand.



Understanding Field Research Terms

- **Treatment:** Refers to the single management practice that changes across a trial. In this case, for example, a treatment is solid beef manure compost.

Lessons Learned through Cover Cropping

As his in-house creation of diverse cover crop mixes might suggest, 2020 was not Schaus's first foray into the world of cover crops. In 2010, he began by seeding red clover into wheat and has since expanded into more diverse cover crop mixes.

Since 2015, for example, Schaus interseeded a cover crop on every acre of corn. In 2018, he started drilling in cereal rye. He found "cereal rye is the perfect seedbed" for soybeans, he says.

In 2020, Schaus planted about 120 acres green. In 2021, he plans on expanding the cereal rye onto 300 acres.

In the fields that he has cover cropped for over five years, Schaus can certainly see improvements. "Our yields are going higher, the purchased nitrogen we're having to apply is dropping per bushel of corn, especially. The ground is getting better in terms of handling the drought stresses we've seen in the past few years. We have more water-holding capacity, and we haven't seen runoff or erosion," he says.

NEXT STEPS

In 2021, Schaus's ONFARM trial site will be corn under minimum tillage, followed by a cover crop.

As Schaus purchased the farm in the ONFARM trial more recently than other acres he crops, he is excited about the opportunity to measure and monitor the improvements in soil health over the duration of the program.

Similarly, King "hopes to find out more about the effectiveness of the beef compost in increasing organic matter in degraded areas," he says. It will be unrealistic to expect to see a change in 2021, he notes.

Hopefully, however, the sensitive tests might begin to reflect some improvements in soil health and organic matter levels with time.