



ROBOTIC SOIL SAMPLING SERVICES

## IlliniFS Case Study

### Robotic Soil Sampling Case Study

Precision-leader IlliniFS adopts robotic sampling for more accurate sampling and better nutrient management decisions.



## The Problem

Illini FS is an agricultural cooperative located in Champaign County, IL that provides agronomy, grain, fuels and lubricants, agri-finance, crop protection, crop nutrients, and seed products and services to central Illinois farmers.

For the last few decades, Illini FS has had soil sampling done by a contractor using a hand probe which led to errors in consistently testing at desired depths as well as in the accuracy and repeatability of soil data needed to characterize the upper soil profile.

Illini FS strives to identify the chemical makeup of the soil through testing to make more informed recommendations that will increase soil optimization and crop yield.

Howard Brown, Manager of Agronomic Information and Nutrient Stewardship at Illini FS, says, "Increased sampling precision and accuracy minimizes the amount of sampling error that plagues manual sample collection." With decades of experience in the agriculture industry, Brown knows that reducing the errors present in manual testing would greatly benefit any farmer or retailer by allowing for more data-driven budgeting and fertilizer optimization.

## Company Profile

**Client:** Illini FS

**Champion:** Howard Brown

**Web URL:** <https://www.illinifs.com>

### Challenges Faced:

- Reliability
- Labor Sourcing
- Accuracy

### Story Outline:

#### Problem:

- Labor Concerns
- Soil Sampling Accuracy

#### Solution:

- Rogo Robotic soil sampling provides greater accuracy and reliability than standard soil sampling

#### Results:

- New Nitrogen Management
- The Future of Soil Sampling



## The Solution

Illini FS reached out to Rogo to decrease the variability in soil data and to improve the accuracy of their soil sampling program. Brown expressed, "With over six years of experience collecting soil samples, I can confidently say that robotic sampling is a game changer. It adds accuracy and precision to sampling, two errors that plague soil testing. "For those of us working to characterize the upper profile's nutrient status, robotic soil sampling is a welcomed technology."

Brown said, "Illini FS expected a seamless effort from both parties, from collection to submission, so we can make a timely recommendation to customers," and Rogo provided the services needed to facilitate the sampling and lab testing processes.

In the Fall of 2019, Rogo sampled 15,000 acres for Illini FS, which allowed for better fertilizer management decisions on the behalf of the grower. With Rogo's commitment to partners from field to lab, Rogo supports businesses and individuals every step of the way through highly accurate, consistent, and reliable data.

### ILLINI FS:

We are an agricultural cooperative providing agronomy, grain, fuels and lubricants, agri-finance, crop protection, crop nutrients and seed products and services.

### ROGO AG:

Rogo offers robotic soil sampling services that give farmers more accurate soil data so they can make more profitable fertilizer decisions. It does this by collecting and packaging soil samples with complete depth-, pattern-, and location-consistency.

You can reserve your acres with Rogo robotic soil sampling at [rogoag.com](https://rogoag.com)

In 2020, Rogo partnered with IlliniFS to bring about an integral integration in their software system that allowed for their crop specialists to submit jobs and get the data back in their AIS software to write recs. This added a much needed workflow that allowed for more efficient data flow.

## The Results

### New Nitrogen Management

"Soil testing of the future will primarily be used to determine the status of plant-available nitrogen in the upper soil profile, ushering in variable rate nitrogen applications. Robotic sampling is the technology that will make it possible."

Rogo's robotic soil sampling services are spurring a paradigm shift in soil collection as Rogo brings unprecedented accuracy of soil testing. The comprehensive soil data opens a new way to look at soil profiles by providing insights not only into nitrogen, nitrate, and ammonium but also into sulfur and

boron which were not previously thought pertinent to soil testing.

With the more accurate data, Illini FS is able to determine the amount of plant-available nitrogen each year ahead of corn and vary the rate of their second greatest input cost, nitrogen, to be most cost effective and to maximize crop yield.

### The Future of Soil Sampling

"The future of soil testing goes beyond 6-7 inches of soil profile. Robotic sampling is the technology that will allow exploration of the upper two feet of the soil profile in an effort to minimize nutrient

applications that are not needed by the growing crop."

One of the four core values that FS member cooperative systems adhere by is "to make life easier for customers, and Rogo does just that." "Growers rely on us to help make the best management decisions possible. And in this case, it's robotic sampling."

"The introduction of robotic sampling by Rogoag has increased sampling precision and accuracy, minimizing the amount of sampling error that plagues manual sample collection."

- Howard Brown