

# Plant Map 3D- a New Tool to Support Farm Decisions

## WILL YOU BE TERMINATING MULTI-SPECIES COVER CROPS THIS SPRING?

### WOULD YOU LIKE TO KNOW HOW TO TAILOR YOUR NITROGEN APPLICATION FOR NEXT SUMMER'S CORN?

IF SO, JOIN OUR PROJECT TO TRIAL PLANT MAP 3D - A NEW TECHNOLOGY THAT MAPS COVER CROP N CREDITS AND TAILORS YOUR SIDEDRESS N RATE TO MATCH

#### What are the requirements?

- Location within the Chesapeake Bay watershed project area
- Farm Bill Program eligibility - are you eligible for NRCS programs like EQIP and CSP?
- An established mixed species cover crop to be terminated in Spring of 2026
- Current Nutrient Management Plan for the acres you enroll

#### What are the risks?

Worry not! We will monitor economic returns and make up the difference if we fall short - up to \$50/ac!

#### What's in it for me?

1. Cost-share on custom use of Plant Map 3D through either GROWMARK FS or Willard Agri-Service (product not included).
2. Precise, variable rate maps for sidedress N on corn that account for cover crop N credits.
3. Potential cost-avoidance where less N than planned is necessary.
4. Lower input costs, higher income for the same yield.

For more information on participating in 2026, please contact

**Willard Agri-Service:** Mike Twining, [miket@willardag.com](mailto:miket@willardag.com), 302-270-9081

**GROWMARK FS:** John Richman, [jrichman@growmarkfs.com](mailto:jrichman@growmarkfs.com), 609-579-6476

**The Nature Conservancy:** Amanda Bunn, [amanda.bunn@tnc.org](mailto:amanda.bunn@tnc.org), 610-314-0201



# RCPP Project Summary

The Regional Conservation Partnership Program (RCPP) is a program funded by the USDA Natural Resources Conservation Service that supports other public and private organizations to advance the implementation of conservation practices on agricultural land. This RCPP Project, *Scaling the Adoption of Adaptive N Management Using Low-Cost Cover Crop Imaging and N Crediting Technology*, presents farmers with the opportunity to understand how their multispecies cover crop influences nitrogen availability in the subsequent crop.

Enrolled farmers will have already planted their multispecies cover crop to be terminated in spring of 2026. A participating agribusiness, either Willard or GROWMARK FS as selected by the farmer, will make a pass with a spray rig that is equipped with a set of cameras as part of a program called PlantMap3D. These cameras will take pictures of the cover crop stand, creating a high-resolution grid that captures the in-field variability in species composition and biomass of the cover crop stand.

The team will use the cover crop images to create a map that shows increases and decreases in nitrogen availability across a field as a result of nitrogen fixation and nitrogen tie-up. This map will then be provided to the agribusiness, who will adjust N applied at sidedress accordingly. Farmers may also apply their own nitrogen at sidedress if they choose to do so at the time of enrollment.

The variable rate sidedress nitrogen map generated by the project team will include reference strips that will allow comparison between baseline management practices and cover crop credited nitrogen rates, and thus identify if a scenario exists where the combination of nitrogen rate and yield result in lower income for areas of the field that follow PlantMap3D Recommendations. At enrollment, farmers may choose to sign up for foregone income payment to offset the risk of lost income. Please see our FAQ document to learn more program details and eligibility requirements.

## Interested in participating?

### Here are your next steps:

- Review project summary (above), Program Details, and other informational materials
- Consider, do you want to perform your own side dress, or have an agribusiness perform it for you?
  - Review farmer sidedress contract
- Consider, do you want to receive a warranty payment for foregone income if project participation results in reduced income?
  - Review farmer warranty payment contract



## Program Details (1 of 3)

### How does this project work?

This project is a cooperative agreement between NRCS and our project team, consisting of The Nature Conservancy (TNC), North Carolina State University, Willard Agri-Service, and GROWMARK FS. In this project, you will work directly with the project team to implement new practices on your farm. Funding is provided by NRCS, but all agreements and payments for work completed are led by the project team.

### What conservation practices does this project fund?

This project funds the use of an innovative technology, PlantMap3D, that maps multi-species cover crops during spring termination to identify where the decomposition of those cover crops will provide nitrogen to the subsequent corn crop, helping to identify cost-saving opportunities at sidedress. It will be important to delay cover crop termination for as long as possible in the spring to allow for maximum nitrogen benefit to your corn.

The technology is new and only available on spray equipment from Willard Agri-Services or GROWMARK-FS. These agribusinesses will perform mapping services for you and coordinate with the project team to generate and apply variable rate sidedress nitrogen prescriptions that account for cover crop nitrogen credits.

### How will this new technology be used in my field?

Agribusiness partners (Willard Agri-Services and GROWMARK FS) will map participants' cover crop fields using PlantMap3D. That information will be transferred to the project team to generate measurements of how much nitrogen from those cover crops will be available to the subsequent corn crop. These measurements reflect spatial variability of cover crop success in the field, and thus will recognize when there is a nitrogen deficit with no credit available, or when nitrogen is present and will be available to the subsequent corn crop. The project team will then work with participants to generate a variable-rate sidedress nitrogen prescription reflecting these cover crop nitrogen credits.

### Can I still participate if I'm uncomfortable agreeing to reduce my nitrogen rate before I know what nitrogen rate reduction PlantMap3D will recommend?

Project participants will be required to reduce their nitrogen rate according to PlantMap3D recommendations, up to a maximum of 25 lbs of nitrogen per acre. If PlantMap3D recommends a greater nitrogen rate reduction, it will be up to the participant to decide whether to reduce their nitrogen rate by more than 25 lbs/ac. For demonstration and learning purposes, the project team will incorporate strips into the prescription that reflect the full nitrogen rate reduction as recommended by PlantMap3D. The goal of these strips will be to provide participants with a demonstration of the power of PlantMap3D to provide accurate and reliable recommendations for nitrogen fertilization following a multi-species cover crop.



### What will agribusinesses do, and what will I do as part of this project?

Participants have the option of relying on Willard Agri-Service or GROWMARK FS to perform all project-related field work, including mapping the cover crop with PlantMap3D and applying custom made sidedress nitrogen prescriptions. These agribusinesses will play an important role in making sure field data is processed by the project team, returned to the participant, and correctly applied to the field. They will coordinate with project participants throughout the season to ensure project activities meet necessary requirements and that necessary data is shared with the project team. The agribusinesses will ultimately coordinate with participants to collect yield data to evaluate final project results.

If participants have their own variable rate sidedress application equipment, they can choose to apply the nitrogen prescription themselves. In this case, Willard Agri-Service or GROWMARK FS will still help to make sure field data is processed by the project team, a sidedress nitrogen prescription is returned to the participant in a form that is compatible with their equipment, and that the prescription is applied correctly to the field.

### What other funding is available to RCPP project participants?

**Cover crop payments:** Starting in 2026, funding will be available for farmers to plant multi-species cover crops within the project area in Pennsylvania. More information on this will be available in summer 2026.

**Foregone Income Payments:** The PlantMap3D technology is new but is well-tested in research plots. Nevertheless, we recognize that adopting new technology involves risk, and we want to offset that risk for project participants. As a result, we are offering field-specific payments to participants if income is lost as a result of following PlantMap3D nitrogen recommendations, up to a maximum of \$50 per acre. The variable rate sidedress nitrogen map generated by the project team will include reference strips that will allow us to compare baseline management practices with recommended nitrogen rates, and thus identify when the combination of nitrogen rate and yield result in lower income for areas of the field that follow PlantMap3D recommendations.

### What agreements or contracts do I have to sign to participate?

**Sidedress N Agreement:** If participants choose to apply their own sidedress nitrogen following the prescription developed by the project team, they must sign an agreement with The Nature Conservancy to be eligible for the \$15 per acre payment.

**Foregone Income Payment:** If participants choose to enroll in the foregone income payment, which is essentially a field-specific warranty payment for lost income as a result of following project recommendations, they must sign an agreement with The Nature Conservancy to be eligible for this payment. The payment is based on a comparison of “business as usual” management with management following project nitrogen fertilizer recommendations. The difference in income will be calculated considering both the nitrogen fertilizer used and the yield achieved across these treatments.



### **Can I combine different cost-share programs with my participation in the RCPP?**

Participants in the RCPP cannot have a current contract for nutrient management (590) with any NRCS program for acres enrolled in RCPP. If acres enrolled in the RCPP do have duplicative contracts with another NRCS program, payment will only be made on one of the contracts. Other sources of financial support can be used to make up the difference between RCPP program payments and 100% of the rate determined by NRCS for “Precision Nutrient Application.”

### **What are the requirements to participate?**

**Current Nutrient Management Plan:** In Maryland and Delaware, having a current state-approved nutrient management plan satisfies this requirement. In Pennsylvania, you must have a current Nutrient Management Plan that meets the NRCS 590 Standard (e.g., an Act 38 Plan or its equivalent).

**Farm Services Agency (FSA) Eligibility:** If you have recently participated in any NRCS cost-share programs like EQIP or CSP on the land you plan to enroll in the RCPP program, you are likely up to date on most eligibility requirements at FSA. Nevertheless, please check with your local FSA office to make sure you have completed the following actions, and make sure you maintain eligibility for participation in Farm Bill programs for the duration of the project. The criteria are:

- Have established farm records in FSA’s Service Center Information Management System (SCIMS)
- Compliance with Highly Erodible Land and Wetland Conservation requirements
- Compliance with Adjusted Gross Income (AGI) limits (< \$900,000/year for three preceding tax years; waivers may be available upon request)

**Established Multi-Species Cover Crop:** Applicants must have acreage already planted to a multi-species cover crop that will be terminated in the spring of 2026. It is up to you to choose a date to terminate your cover crops, but delaying cover crop termination for as long as possible in the spring will allow for a greater nitrogen benefit to your corn.

**Corn Acreage:** Acres enrolled in this RCPP project must be planted to corn following a multi-species cover crop.

**Minimum Acreage Enrollment:** The minimum total acreage necessary to enroll in this RCPP project is 30 acres. The minimum individual field size required is 10 acres.

**Commitment to Collaboration:** RCPP participants must choose to work with either Willard Agri-Service or GROWMARK FS for cover crop mapping on the acreage they enroll in the project for the entire season. This is necessary to maintain the integrity of project data that will be generated and used between March and November each year.

**Data Sharing:** To demonstrate the performance of PlantMap3D and comply with NRCS requirements under the RCPP project, the project team will need access to agronomic information on enrolled fields. Planting dates, nutrient applications, and yield data are some of the types of information we will need to collect. This information will be kept confidential within the project team; your name will not be shared publicly without your permission; and your farm data will only be shared in an anonymized or aggregated form.

**Interviews:** We want to know about your experience with this project and PlantMap3D. We therefore ask that you make yourself available for an interview each year that you participate. Your responses will be kept confidential, and you will be compensated for your time.



# Farmer Application

**Personal Information**

Applicant Name :  Farm Name :

Mailing Address :

Phone Number :   Email Address :   Please place check mark by preferred way to be contacted

Tax ID of applicant (last 4 of SS#, EIN) :  Supporting Agribusiness : Willard  GROWMARK FS

*This application is non-binding. Please include any and all acres you may want to enroll at the time of application. Additional acres cannot be added at a later time. Acres can be removed prior to burn-down. Room for additional fields on page 2 of application. Minimum field size is 10 acres, minimum total enrollment is 30 acres*

Field ID	State	County	Acres	FSA Farm #	FSA Tract#	Multi-species CC planted fall 2025?	Corn being planted in spring?	Is the Field irrigated?
						<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
						<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
						<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N

Required attachment: map showing field borders, field ID, and geolocator (road names and the nearest intersection, coordinates, street address, or equivalent).

**Additional program requirements**

Current Nutrient Management Plan- Made available to TNC staff

Up to date records with FSA for acres you intend to enroll (adjusted gross income, control of land, etc)

**Application and additional program requirements due 2/28/26 for participation in the 2026 growing season.**

**Questions?**

Contact Amanda Bunn, Applied Agricultural Conservationist at TNC [Amanda.bunn@tnc.org](mailto:Amanda.bunn@tnc.org) 610-314-0201

# Farmer Application: Additional Fields

**Personal Information**

Applicant Name :

Farm Name :

Field ID	State	County	Acres	FSA Farm #	FSA Tract #	Multispecies CC planted fall 2025?	Corn being planted in spring?	Is this field irrigated?
						<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
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