



Incentive Program for Adaptive Nitrogen Management

Make Your Healthy Soils Work for You

FINE-TUNE YOUR COVER CROP'S NITROGEN NEEDS

Are you fully accounting for all the nitrogen that's in your soils? Penn State has developed a [nitrogen recommendation tool](#) (N Tool) that allows a user to input site-specific soil and cover crop data to calculate a corn fertilizer recommendation that **accounts for nitrogen availability from soil organic matter and cover crop residues**. Farms with a history of frequent manure applications may have the greatest benefit from using this new tool.

WHAT'S THE INCENTIVE?

This program will pay \$100 per acre for a farm to use the tool on 5-20 acres. This is intended to cover the labor and analysis costs of collecting plant and soil samples. The farm may collect this data themselves or work with their crop advisor.

Farms with healthy soils may be able to reduce nitrogen fertilizer amounts providing direct cost savings for the farm. Reducing nitrogen applications may also minimize nitrogen losses to the environment through excess nitrate leaching or nitrous oxide emissions.

Participation Requirements

- Farm must be within the Chesapeake Bay watershed.
- Any corn field harvested for grain or silage.
- Minimum planting area for incentive payments is 5 acres, maximum is 20 acres.
- Fields greater than 20 acres can enroll just a portion of the field.
- Utilize the PSU soil sample analysis, Pre-sidedress Soil Nitrate Test (PSNT), and the Corn Stalk Nitrate Test (CSNT).
- Estimate cover crop biomass and carbon:nitrogen ratio.
- Establish a control strip of your standard nitrogen rate in the enrolled field to compare with the Penn State nitrogen fertilizer recommendation.
- Provide yield data from calibrated yield monitor maps (preferred but not required) and possibly other records to Penn State.

PENN STATE SUPPORT

Penn State will train and work with farmers or consultants to generate an early -season N Tool recommendation before planting and a mid-season PSNT recommendation before N sidedressing.

CONTROL STRIP

Since yields are influenced by many other factors besides nitrogen rates, it is important to have a control strip to evaluate the tool recommended rate to your standard nitrogen rate.

The control strip will use your standard N rate. If the recommended N rate generated by the Penn State N Tool and PSNT differ substantially, you may choose to use either recommendation.

The control strip should be located away from field edges and be at least the width of three combine/ forage harvester passes and the length of the field minus the headlands.

Yield data and CSNT samples should be collected at harvest from the control strip and from treatment strips of the Penn State N rate on either side of the control strip (three strips total).

Get Started

To enroll, contact:

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For technical details about the adaptive nitrogen management tools used in this project and for implementation requirements, contact Penn State collaborators:

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Photo Andrew Lefever, Penn State University

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