

## New York On-Farm Research Partnership Join Us!

# Power of Manure Project 2025

### Research questions:

- How much nitrogen (N) can my soil supply?
- How does past manure, crop, and soil management impact soil N supply?
- Can soil microbial biomass predict soil N supply on my farm?

### Background:

Manure history and field management (cover crops, crop rotation, etc.) impact soil nitrogen (N)-supplying capacity. In this project, we evaluate the N supply, soil microbial biomass, and crop N uptake efficiency as a result of different manure histories, field agronomic management, and soil types. This is a project of the New York On-Farm Research Partnership of the NMSP, co-funded by the Northern New York Agricultural Development Program and the New York Farm Viability Institute. We are looking for farmer participants. We can test soil N supply in one or several fields under different agronomic managements (cover crops, no-till, etc.). Interested? Contact Juan Carlos Ramos ([jr2343@cornell.edu](mailto:jr2343@cornell.edu), 531 207 6339), On-Farm Research Coordinator for the NMSP.

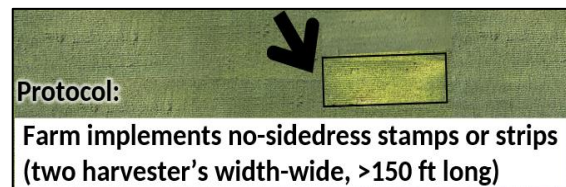
### Required for participation:

- Corn harvester (chopper or combine) with calibrated yield monitor system.
  - Alternatively, the plots can be hand-harvested by the NMSP team.
- Corn planted with no more than 30 lbs N/acre as starter fertilizer.
- Field length minimum: 500 ft. Field width minimum: 6 times the harvester width.

### Experimental design:

The farm leaves “no-sidedress” stamps or strips in one or more fields. If interested in learning about soil N supply without manure addition, the farm would also select areas where spring manure is not applied (no manure, no sidedress N). Soil N assessments can be done using two designs. The second one listed here requires past yield monitor records (3 years or more). The first one listed can be done with or without yield monitor systems in place:

1. **No-Sidedress Stamps:** The farm implements stamps without sidedress fertilizer addition or without manure+sidedress in one or several fields (at least three stamps per field) to evaluate soil N supply without fertilizer addition or without manure or fertilizer N. Each stamp will be at least two



harvester widths wide and 150 ft long to enable accurate yield determination with yield monitor systems in the stamp and compare it to the yield data of the rest of the field. The corners of the no-sidedress stamps should be flagged. The NMSP team will geo-reference with a GPS when soil sampling takes place.

2. **Single-Strip Trials** (requires three years of previous yield data to create [yield stability zones](#)): Farms implement a strip without fertilizer addition or without manure+fertilizer N. The rest of the corn field receives a business-as-usual sidedress rate. Each strip is two harvester widths wide and as long as possible, 500 ft minimum. Yield data will be collected with yield monitor systems and analyzed using the [Single Strip Evaluation Approach](#). This approach gives the farm a quantification of yield impact per management zone in the field that the strip is implemented in.

#### What you implement:

- No sidedress or no-sidedress+no manure stamps or strips. Stamps and strips must be 2 chopper-widths wide and, for stamps be at least 150 ft long while for strips be as long as possible, 500 ft minimum.
- Flagged corners for each no-sidedress stamp or strip.
- Yield data collected with a calibrated yield monitor system.
- All necessary inputs for regular crop production (weed control, etc.).

#### What you collect:

- Yield data with a combine or chopper with a calibrated yield monitor system.
- Field history and crop management information (planting date, fertilizer use, manure application rate, weed or pest control, sidedress timing and rate, past crop rotations).

#### What the Cornell team and collaborators will do (and share with you):

- Aid with implementation and flagging (and GPS referencing) of stamps and strips.
- Collect soil samples for microbial biomass, soil fertility, ISNT-N (0-8 inches) and PSNT (0-12 inches) at V5-6 (right before sidedressing).
- Collect CSNT samples and forage quality for corn silage/grain fields for each stamp/strip.
- Share a final report with yield data, soil N supply, microbial biomass, all soil, manure, and silage quality information.

## Please let us know if you will participate!

Once we have a list of participants, we will start documenting locations and put together the plan for completing the soil N stamps/strips with you in 2025.

**Juan Carlos, NY On-Farm Research Coordinator**  
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