

**Minnesota Department of Agriculture  
Pesticide & Fertilizer Management  
FINAL PROGRESS REPORT  
FOR THE PERIOD: APRIL 1, 2022 - MARCH 31, 2023**

PROJECT NUMBER: SWIFT 207744/ PO# 3000041305  
PROJECT DESCRIPTION: Can the presidedress soil N test help predict in-season fertilizer needs after fall-applied manure?  
REPORT DUE DATE: April 30, 2023  
PRINCIPAL INVESTIGATOR: Melissa L. Wilson

**Objectives:**

The objectives of this study are to: 1) evaluate the presidedress soil nitrogen test (PSNT) for fall-applied liquid dairy and swine manures to predict sidedressed N needs for corn and 2) compare PSNT results between fertilizer only production systems and manure/fertilizer combination systems.

**Current Research Findings:**

This study is being conducted at the Southern Research and Outreach Center (SROC) in Waseca, MN (Figure 1) which has high-yielding soils. This will allow us to test the PSNT under conditions that have been suggested to work well in other studies. Overall, we see this as a preliminary study to gather data on whether the PSNT can work.

The first year of the first rotation has been completed. Corn and soybean were planted last growing season (2022). Dairy and swine manure were applied following harvest to prepare for the next corn crop. Initial soil samples were collected to determine if P and K fertilizers need to be applied in the spring to the non-manured plots. Since the main bulk of the research in rotation 1 will not be completed until 2023, we do not have any results to report.

**Project Schedule and Budget:**

The project is on schedule and the budget was on track, even slightly under budget for the year as we had some shifts in staffing over the summer.

**Potential Project Results:**

The main goal of this project is to determine if the PSNT is a useful tool for predicting additional nitrogen needs in corn when manure was applied the previous fall. If we can provide better recommendations for judicious use of fertilizer in manured systems, then farmers will be able to increase profitability by sidedressing nitrogen in years when it's needed while avoiding application in years that it's not.