

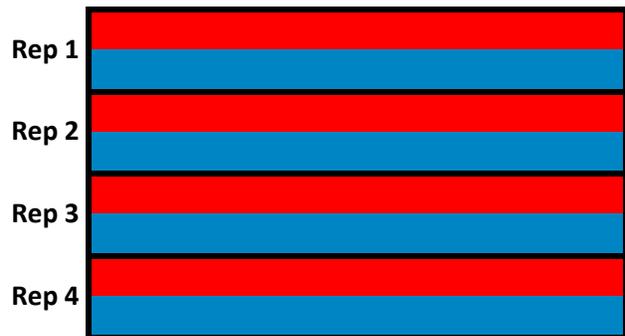
Bay Farms On-Farm Network®
CSNT Reliability Demonstration Replicated Strip Trial Protocol

Objective:

This strip trial is designed to demonstrate the reliability of the late season Cornstalk Nitrate Test results (CSNT) and increase farmers' confidence in CSNT results. Instead of assuming all fields across PA need the same amount of N, adaptive N management techniques can be practiced to refine N rates on individual farmers' fields to address narrowing profit margins and mounting concerns about losses of N from fields to surface water. Farmers will receive results of in-season and end-of-season N tests. This trial allows growers to test their current N application and rates to one or more adaptive management technique recommendations.

Brief Summary:

Growers with yield monitors equipped with GPS will compare their normal N management to an alternate N management. Alternate N management could be a slightly higher or lower N rate or comparison between all N applied at planting vs. splitting application with side-dress treatment. Treatments will be in alternating strips across 20 acres. Each treatment must be uniformly applied. A field with straight rows and little variability in soil type, topography, etc. is preferred. An example of a normal rate vs. a normal rate plus 30 pounds of N replicated strip trial is shown on the right. The width of a strip must be at least as wide as the combine pass and preferably wider. Each strip must be harvested separately without mixing yields from two strips. Loads or regions should be used in the yield monitor to identify the different passes making sure to note the "Normal" passes and the "Treatment" passes.



Grower Requirements:

1. Complete and submit a replicated strip trial registration form by along with a field boundary in shapefile format (.shp, .dbf, & .shx) or a FSA map with the field clearly outlined.
2. Apply four alternating strips of commercial N at 2 rates the length of the field. The length of the replicated strips should be a minimum of 1,320 feet. Areas containing waterways and or point rows should be avoided. All other factors in the trial area must be managed the same (previous crop, planting date, hybrid, etc).
3. Accurately record where nitrogen treatments were applied using GPS equipment or hand drawn maps that include the time of application, application starting point, width of treatments, and number of replications.
4. Complete and submit an application log form and as-applied map within 30 days of application in the following format: raw files from the memory card or exported shapefile (.shp, .dbf, & .shx).
5. Trial must be harvested with a calibrated yield monitor equipped with GPS. If possible, harvest the entire trial area on the same day. GPS yield data must be submitted within 30 days of harvest or no later than December 1 of the harvest year in the following format: raw files from the memory card or exported shapefile (.shp, .dbf, & .shx).
6. Allow Bay Farms On-Farm Network to use the submitted and collected data for research, educational, and informational purposes. All data will be used confidentially without any identifying features that would enable the data to be traced to an individual producer.

Bay Farms On-Farm Network Agrees to:

1. Collect Chlorophyll Meter or Pre-Sidedress Nitrate Test (PSNT) and Corn Stalk Nitrate test samples from each field and provide them to the grower.
2. Return a report analyzing the treatment differences.
3. Keep data in a confidential manner that can't be linked back to the individual producer by other parties.