



SPLIT NITROGEN APPLICATION STUDY IN CORN 2020

PROTOCOL

Background:

Nitrogen (N) management in corn is challenging. Innovations in the last several years have supported the ability to apply nitrogen in the growing crop, reducing the need to apply all corn nitrogen at planting.

Objective:

To determine if split applying N in corn can improve nitrogen utilization.

Participant Requirement:

- Participant may only register (1) field in this Field Study
- Share yield data with group leader – weigh wagon, calibrated yield monitor or grain weight as measured by truck scale
 - Customer data is anonymous (known by a number, not a name)

Field Application:

- Fields will need to be registered by INFA by April 1, 2020
- The field used for this Field Study must be 40-60 acres
- Plant and follow your normal (100% up front) nitrogen management program on half the field

- Split apply nitrogen on the other half of the field. No more than 40-60% of your normal rate should be applied at planting with the other 60-40% applied during the growing crop from V4-V8 growth stage. Any nitrogen and/or combination of nitrogen products can be used (NH₃, 28 or 32%, urea or AMS)
- If stabilizer is used in the 100% preplant application, it should be used in both (the 100% and the split) preplant applications to stay consistent

Data Collection:

- **Document tillage, fertilizer (including starter and P and K rates and timing) and planting date.** Other details like previous fertilizer applications for preceding crop, etc. would help to understand the results. Please mimic the application data collected in the web tool and indicate what is being done for the trial.
- **Tissue samples for nutrients and soil samples for soil nitrate and ammonium tests.** Group leaders and staff will arrange for tissue samples and 0-12" soil samples at V5, V10 and R1 comparing the two different nutrient applications. Identify split nitrogen area with GPS coordinates and/or as-applied map along with flags in the field. A additional 0-8" sample will be taken at soil health assessment timing (see below) to capture soil pH, CEC, organic matter, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, zinc, and boron.
- **Soil health assessment.** Group leaders and staff will collect soil for soil health assessments in both treatment areas. The soil health assessment will include the following set of indicators; soil organic carbon (ppm), aggregate stability (%), bioavailable nitrogen (mg/g dry weight), respiration (mg CO₂ /g dry weight) and active carbon (ppm).
- **Agronomic consultation.** An agronomic professional can consult with product, timing and rate on the split application, but if you currently have a trusted advisor use that person.

Final Report:

Each field will have a field report generated from the tissue test, soil nitrogen test and lab work.