Nebraska On-Farm Research Network: Project SENSE Protocol

www.cropwatch.unl.edu/farmresearch

Objective:
- To demonstrate the crop canopy sensor method for improving NUE.
- To collect necessary data to validate and refine sensor N recommendation algorithms.

Treatments:
- Grower’s normal N management - blue
- High N reference (N applied at non-limiting N rate - 250 lbs of N/acre is suggested) - white
- Project SENSE N Management: Base rate of 75# of N plus in-season application using the Ag Leader® OptRx™ System and built in algorithm - pink

Layout: The plot has been designed to have 6 replications of the producer and project SENSE N rates, plus 2 strips of the high N reference. The plots are randomized to allow for statistical analysis to determine confidence in results. The layout at right shows how these studies should be implemented.

Other Guidelines:
- Row spacing must be 30”.
- Grower must have yield monitor and capacity for yield mapping.
- Treatment strips may vary from grower to grower but must be at least 8 rows in width.
- Site must be irrigated with center-pivot, but not fertigated. If 0.5” of rain does not occur within a week of the Project SENSE application, grower must irrigate (0.5”).

Grower Responsibilities:
- Planting, harvest, and all other management involved with producing the crop.
- Calibration of yield monitor and submission of harvest data files to Nebraska Extension.
- All N applications EXCEPT the Project SENSE in-season application must be done by the grower.
- The N required for the Project SENSE in-season application must be provided by the grower and delivered to the field on the day of application.

UNL Extension Responsibilities:
- Assist with plot layout, flag the field and mark GPS of each treatment.
- Apply in-season N application to Project SENSE strips
- Assist with yield monitor calibration, analyze raw yield data using statistical analysis, and provide a report to the grower.
- Collect other data including: soil OM, deep soil nitrate, and Veris OM, pH, and EC.