Project SENSE is a collaborative effort of University of Nebraska-Extension, the Nebraska Corn Board, Natural Resources Districts, and USDA to encourage adoption of in-season nitrogen (N) application for corn. Through this practice we expect nitrogen use efficiency (NUE) will increase, reducing nitrate loss to groundwater.

Why Sensors?

A reactive approach, using crop canopy sensors, has been proven through research to be an effective way to approach EONR, adjusting for spatial and temporal variation. The sensors used in this project are OptRx active crop canopy sensors. These sensors are mounted on a high clearance applicator and record plant reflectance. The applicator then applies N fertilizer in real-time. For more information about how crop canopy sensors work visit: [http://go.unl.edu/sensevideo](http://go.unl.edu/sensevideo).

Where?

Research experiments were set up at 17 field sites in 2015, located in 5 Natural Resource Districts: Central Platte, Little Blue, Lower Loup, Lower Platte North, and Upper Big Blue.

Field Days

Field Days were held in July and August in each NRD. Total attendance for the 5 demonstration days was 107 growers and advisors representing 319,000 acres. Participants rated the value of knowledge gained at $5.82/acre.
2015 Research Results

Sensor approach resulted in 5 bu/acre yield loss.

Sensor approach saved 40 lb N/acre compared to grower rate.

Sensor approach used 0.17 less lb N for each bushel produced.

*Values with same letters are not significantly different at alpha=0.05. Letters apply within site.

**Net Return**
Using a price of $0.65/lb N and $3.65/bu corn, the sensor management resulted in a marginal net return that was $10.35/acre greater than the grower management.