

**Iowa Soybean Association On-Farm Network®**  
**Normal Rate vs. Normal Rate plus 50 lbs. Replicated Strip Trial Protocol**

**Objective:**

The purpose of this project is to quantify the agronomic and economic impacts of increasing rates of N fertilization. This information is needed to address narrowing profit margins and mounting concerns about losses of N from fields to surface water. Instead of assuming all fields across IA need the same amount of N, this trial allows growers to account for their own experience and management practices used on their farms.

**Brief Summary:**

Growers with yield monitors equipped with GPS will compare their normal rate to 50 lbs. more in alternating strips across 20 acres. Each rate must be uniformly applied. A field with straight rows is preferred having variability of soil type, topography, etc. An example of a normal rate vs. normal rate plus 50 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. Harvesting must ensure at least one “pure” combine pass (not mixing yields from two strips) within each treated and untreated strip. Mixed passes are acceptable when the application width is wider than individual combine passes, but the grower must be able to harvest at least one pure pass from each treated and untreated strip. Loads or regions should be used in the yield monitor to identify Normal rate passes, Normal rate plus 50 passes, and mixed passes.

<b>Rep 1</b>	<b>Normal Rate</b>
	<b>Normal Rate Plus 50 lbs. N</b>
<b>Rep 2</b>	<b>Manure</b>
	<b>Normal Rate Plus 50 lbs. N</b>
<b>Rep 3</b>	<b>Manure</b>
	<b>Normal Rate Plus 50 lbs. N</b>
<b>Rep 4</b>	<b>Manure</b>
	<b>Normal Rate Plus 50 lbs. N</b>

**Grower Requirements:**

1. Contact Matt Sweeney at 515-669-9157 to confirm intent.
1. Complete and submit a replicated strip trial registration form by June 10, 2011 along with a field boundary in shapefile format (.shp, .dbf, .shx, & .prj) or FSA map with the field clearly outlined.
2. Apply a minimum of 4 replications as shown in the diagram above with alternating strips 50 lbs of additional nitrogen with the rows. 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 (planting date, variety, etc).
2. Accurately record where all treatments were applied using GPS mapping equipment and submit as-applied data within 30 days in the following format: raw files from the memory card or exported shape file (.shp, .dbf, .shx, & .prj).
3. Provide management information relevant to this trial.
4. Trial must be harvested with a calibrated yield monitor equipped with GPS. If possible, harvest the entire trial area on the same day. Complete yield card backup must be submitted within 30 days of harvest or no later than December 1, 2011.
5. Allow ISA to use submitted and collected data for research, educational, and informational purposes.

**ISA Agrees to:**

1. Cover any yield loss caused by the lower rate treatment in the replicated strip trial. The price of corn is preset at \$6.00/bu and is limited to 10 acres for each treatment. If more replications are applied over 20 acres, reports will be analyzed, but yield loss will be capped at 10 acres.
2. Pay the producer a \$200 trial hassle fee after the successful completion of the project.
3. Attempt to collect aerial images and stalk nitrate samples from each field and provide them to the grower at no cost.
4. Return a report analyzing the treatment differences.
5. Keep data in a confidential manner that can't be linked back to the individual producer by other parties.

