

Iowa Soybean Association On-Farm Network® Expanded Manure Replicated Strip Trial Protocol

Objective:

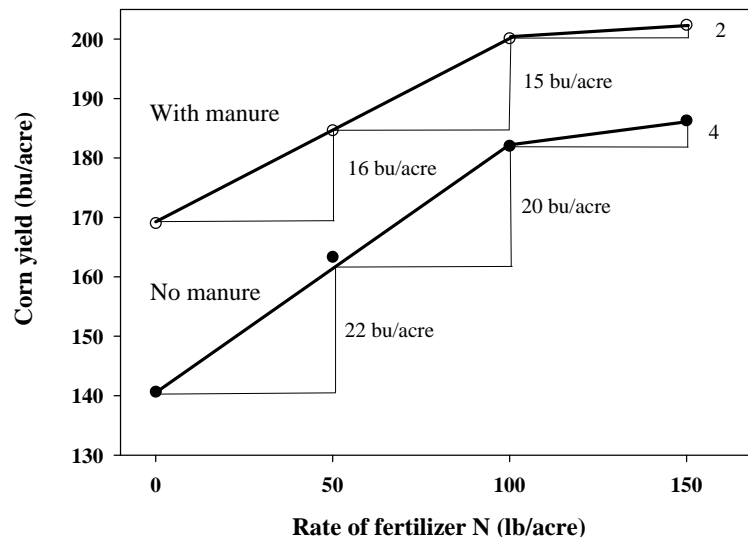
The purpose of this project is to compare grain yields from manured and non-manured areas of a field and determine the optimal N rate for both sources.

Brief summary: Growers with combines equipped with yield monitors and GPS will lay out three blocks with and without manure; in addition, commercial nitrogen will be sidedressed at different rates within these blocks. Growers will measure the yield differences at the end of the growing season.

Example of trial with chicken litter

Grower Requirements:

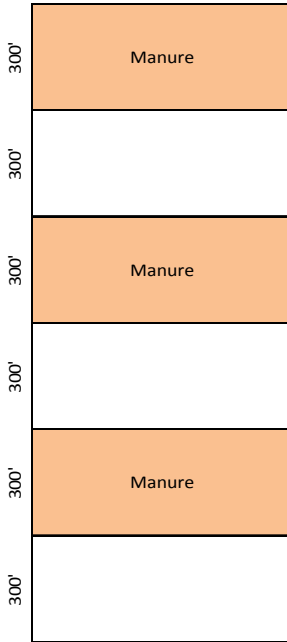
1. Contact Matt Sweeney at ISA (515-669-9157) to confirm intent to participate in these trials.
2. Select a field with ½ mile rows that has had **NO** manure in the previous 4 years and is fairly uniform (the less variable the better).
3. Apply manure within block areas at a rate that supplies 100% of N needs for the field. There must be three blocks with block size dependant on equipment sizes.
4. Complete and submit a replicated strip trial form by June 12, 2009 along with a field boundary in shapefile format (.shp, .dbf, & .shx) or FSA map with the field clearly outlined.
5. Accurately record where the manure and sidedress commercial nitrogen treatments were applied using GPS equipment. This must include the application starting point, width of treatments, and number of replications. All other factors in the trial area must be managed the same (planting date, variety, etc).
6. 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, 2009 in the following format: raw yield from the memory card or exported shapefile (.shp, .dbf, & .shx).
7. Participants must agree to allow ISA to use submitted and collected data for research, educational, and informational purposes.



ISA Agrees to:

1. Flag out trial and areas of manure application.
2. Pay for soil sampling and stalk nitrate testing.
3. Cover any yield loss caused by the lower rate treatments in the replicated strip trial. The price of corn will be comparable to current year market prices.
4. Provide sidedress applicator in some cases.
5. Attempt to collect aerial images from each field and provide them to the grower at no cost.
6. Return a report analyzing the treatment differences.
7. Keep data in a confidential manner that can't be linked back to the individual producer by other parties.

**Iowa Soybean Association On-Farm Network®
Expanded Manure Replicated Strip Trial Protocol**



Step 1. Manure Application

Apply Manure in blocks. This can be done either in the spring or the fall. With Prior Notice, ISA can assist in flagging the trial. Manure should be applied at a normal rate. The direction of application is not important.

Plot design will differ for different sized equipment. For 30 ft toolbars, for example, the manure blocks should be 360 ft wide. This provides passes for the trial and passes for buffers.

Fertilizer should be applied at side-dressing time (for convenience of applying strips).

Step 2. Applying Fertilizer

Apply fertilizer in strips 1800 ft long.

Note: The application rate is constant for the length of the trial. To minimize border effects, the rates are incremented, not randomized.

