



# Sidedress Nitrogen Rate Comparison for Corn Grown in Higher Organic Soils ( 15-1206 )

## Experiment Info:

Planted:	5/7/2015
Harvest:	10/26/2015
Yield Goal:	170 bu/A
Target Fert.:	190-93-205
Variety:	DKC 46-36 RIB
Population:	32,100
Row Width:	30"
Prev. Crop:	Soybeans
Plot Size:	15 x 350
Replications:	3
SD (V5)	6/11/2015

## Soil Test Values (ppm):

pH:	7.4
CEC:	20.6
%OM:	4.5
Bray P1:	9
Bicarb P:	6
K:	58
S:	11
%K:	.7
%Mg:	21.6
%Ca:	77.5
%H:	0
Zn:	1.1
Mn:	3
B:	0.9

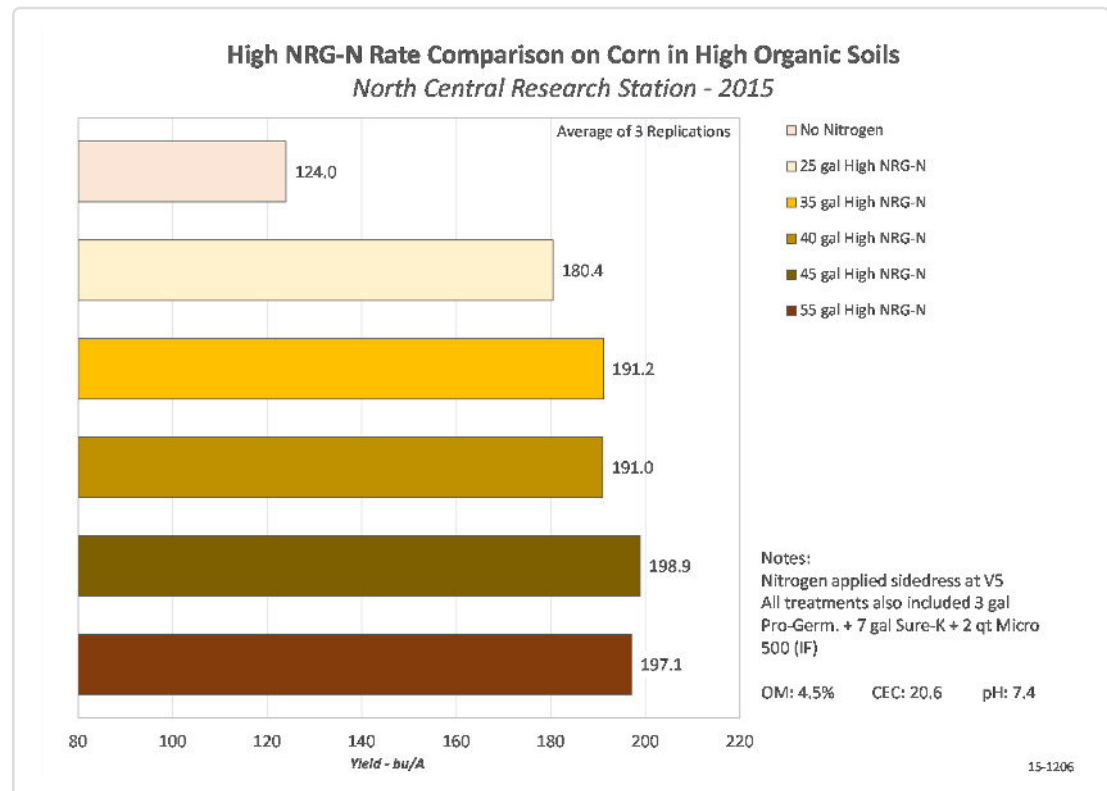
## Objective:

To determine the most effective and economic rate of High NRG-N for corn growing in higher organic soils.

Soils with higher CECs and organic matter have the ability to hold more nitrogen along with provide some additional mineralized nitrogen to feed the crop. This experiment was established in a field that has a CEC of 20.6 with 4.5% organic matter. With a yield goal of 170 bu/A corn, 45 gal of High NRG-N would be the typical recommendation. For comparison, High NRG-N was applied sidedress at 25, 35, 40, 45 and 55 gal/A to evaluate yield response to determine the best nitrogen rate for these type of soils.

Before the sidedress application, a Pre Sidedress Nitrogen Test (PSNT) soil test was taken and sent to the lab for analysis. Results showed that this soil was providing 30 lbs of N/A. Based on this recommendation, 38 gal/A of High NRG-N should be applied.

Yield results appear on the chart below.



## Conclusions:

- All treatments greatly increased yield over the no nitrogen treatment.
- The 25 gal/A rate of High NRG-N yielded significantly lower than the other four rates, over 11 bu/A lower.
- The 35 and 40 gal/A rates, which was close to the PSNT recommended rate, yielded similar. The 35 gal/A rate, in this experiment provided similar economics to the 45 gal/A rate.
- The 45 gal/A rate increased yield by nearly 9 bu/A compared to the next lower rates, and was likely the most economic rate applied. No further yield increase was produced with more nitrogen being applied.
- As shown in the 2014 experiment, nitrogen rates can be reduced in higher organic soils.