Effect of Fertilizer Program Rate and Components on Yield of Corn (15-715)

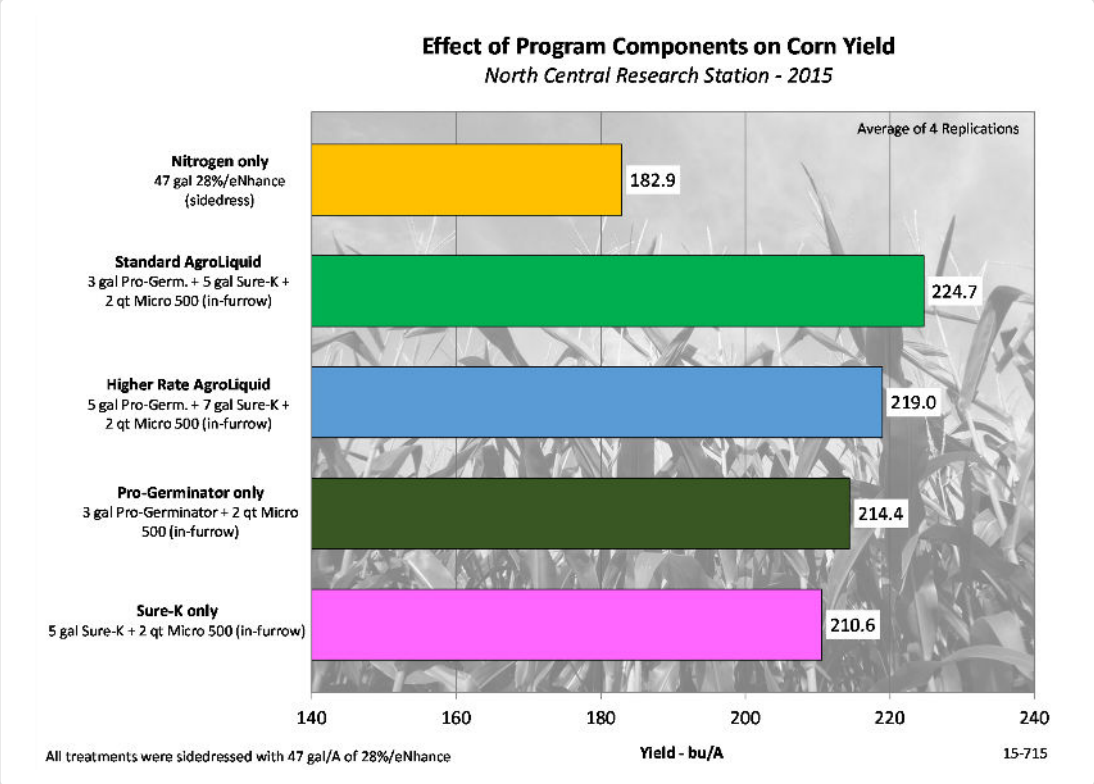
Experiment Info:	
Planted:	5/1/2015
Harvest:	10/23/2015
Yield Goal:	170 bu/A
Target Fert.:	175-30-60
Variety:	DKC 53-56 RIB
Population:	32,300
Row Width:	30"
Prev. Crop:	Soybeans
Plot Size:	15 x 210
Replications:	4
DBC (Fall)	10/28/2014
DBC (PPI)	4/28/2015
SD (V5)	5/29/2015

Soil Test Values (ppm):	
pH:	7
CEC:	12.4
%OM:	3.4
Bray P1:	25
Bicarb P:	17
K:	111
S:	5
%K:	2.3
%Mg:	21.4
%Ca:	75.9
%H:	0
Zn:	1.5
Mn:	4
B:	0.7

Objective:

Evaluate the effects on corn yield of Pro-Germinator and Sure-K applied separately and in combination. Additionally, evaluate a rate of in-furrow fertilizer that is 50% higher in volume than that of the standard recommendation. This to see if the standard rate is providing sufficient corn nutrition.

One of the advantages of AgroLiquid crop nutrient products is the ability to apply them based on the crop need. When a grower is applying a rate of blended fertilizer, how can he be sure that each component is contributing to the yield produced. So a fertilizer program consisting of 3 gal/A of Pro-Germinator + 5 gal/A of Sure-K, plus Micro 500, was applied at this rate, plus applications of the Pro-Germinator and Sure-K alone (but with the Micro 500). Another treatment was an application of these components at a rate that is 50% greater (12 vs 8 gal/A of combination of Pro-Germinator + Sure-K. It may be that adequate nutrition is not being applied with the lower rate, and a higher rate is needed.



Conclusions:

- All fertilizer combinations yield higher than the nitrogen only treatment.
- The individual component treatments both yielded lower than the combination treatment. As reported in the past, the Pro-Germinator out-yielded the Sure-K. Although there is a need for both P and K, there is a greater need for plant-usable phosphorus, especially early in the season.
- The higher rate treatment did not increase yield compared to the standard AgroLiquid treatment. This indicates that there is sufficient nutrition in the rate applied based on soil test. The higher rate did not affect stand counts, but the 12.5 gallons per acre exceeds the maximum recommended rate of 10 gallons per acre to be applied in furrow.