Fertilizer Products Applied Together and Separately for Effects on Corn Yield (19-715)

Experiment Info:	
Planted:	5/17/2019
Harvest:	11/08/2019
Yield Goal:	175 bu/A
Target Fert.:	170-30-60
Variety:	P9998 AM
Population:	32,000
Row Width:	30"
Prev. Crop:	soybeans
Plot Size:	15 x 210
Replications:	3

Soil Test Values (ppm):	
pH:	7
CEC:	12.4
%OM:	3.4
Bray P1:	25
Bicarb P:	
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 of Corn fertilizer program components applied together and separately for overall effects on corn yield.

AgroLiquid fertilizer nutrient products Pro-Germinator and Sure-K are recommended to be applied at rates to reach a yield goal based upon soil test levels. This is the advantage of having separate P and K products that can be blended together for planter application.

This experiment was designed to measure the effects of Pro-Germinator and Sure-K applied together and separately to understand the contribution of each as part of a total fertilizer recommendation.

Fertilizer treatments were applied in a split stream in the seed furrow during planting. All treatments received a side-dress application of 47 gal/A of 28%/eNhance. There was also a nitrogen only treatment for further comparison of fertilizer effects.

Effect of Fertilizer Program Components on Corn Yield

		Average Bu/A by Year					
Trt	Fertilizer program	2011	2013	2015	2017	2019	Avg
1	Pro-Germ. + Sure-K + Micro 500	215.6	213.6	224.7	212.1	197.3	212.7
2	Pro-Germ. + Micro 500	205.6	205.3	214.4	200.1	185.3	202.1
3	Sure-K + Micro 500	195.8	193.0	210.6	195.9	174.2	193.9
4	28% UAN/eNhance only	194.7	184.0	182.9	184.2	167.4	182.6

Fertilizer Rates:
Pro-Germinator: 3 gal/A
Sure-K: 5 gal/A
Micro 500: 2 qt/A
Sidedressed on all treatments: 28% UAN/eNhance at 47 gal/A

5-Year average: LSD(0.1): 9.8; LSD(0.2): 7.6; CV: 10.9%

Conclusions:

- As expected, the treatment with the combination of Pro-Germinator and Sure-K had the highest yields in each year of the experiment, and was significantly higher than that of Pro-Germinator and Sure-K alone.
- Even though the soil is low in K, there is a larger yield response with Pro-Germinator compared to Sure-K vs the N only. This is likely due to the higher phosphorus demand with early planted corn in cold soils.