



# Permanent Plots - Corn P and K ( 19-715 )

### Experiment Info:

Planted:	5/17/2019
Harvest:	11/08/2019
Yield Goal:	175 bu/A
Target Fert.:	175-30-65
Variety:	P9998M
Population:	32,000
Row Width:	30"
Prev. Crop:	soybeans
Plot Size:	15 x 210
Replications:	3

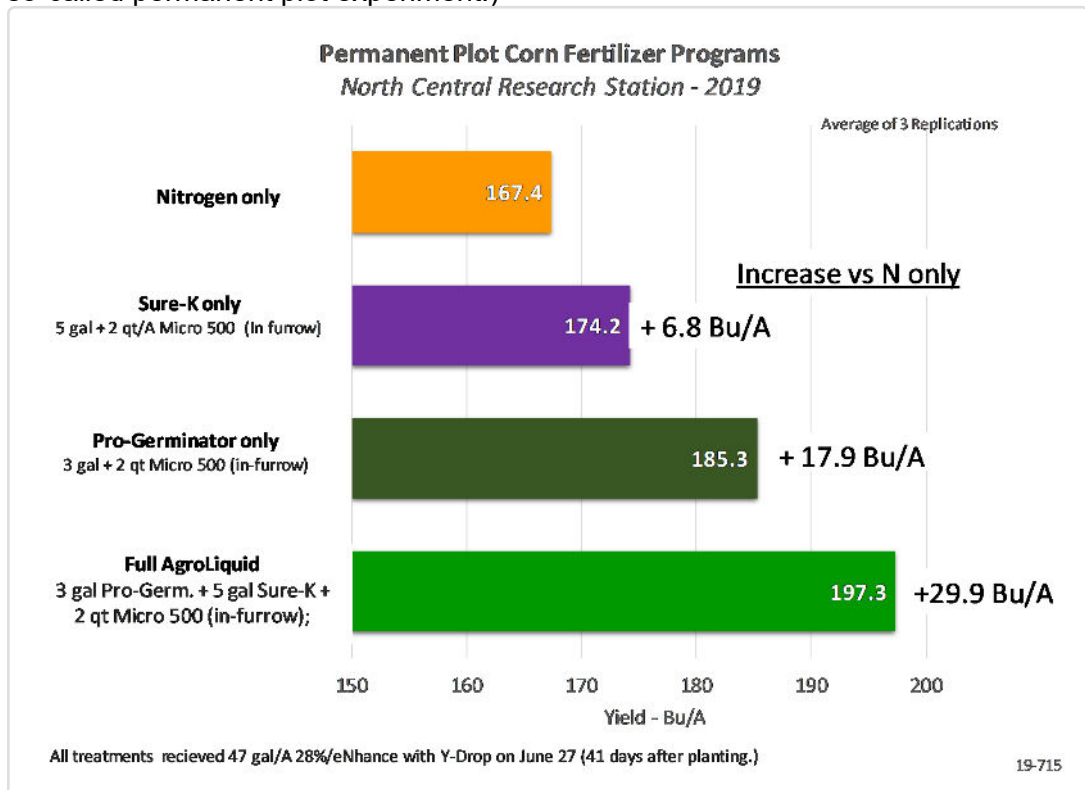
### Soil Test Values (ppm):

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:

To show the product building effects of an AgroLiquid corn fertilizer program.

AgroLiquid has nutrient products that are made to be applied according to specific crop needs. There is Pro-Germinator for Phosphorus and Sure-K for Potassium and they can be applied together based on soil test recommendations. It is gratifying to show the yield components of the product applications. That is, what is the effect of adding K in the absence of P, vice versa and then adding together. In the past we have seen that, say, the addition of Sure-K alone may not be much higher than a check with no planter fertilizer. This goes back to Liebig's Law that says yield from addition of a nutrient will be limited by another nutrient, like P, that is in short supply. Particularly when planting in cold soils. But when both are applied you should see the synergistic response. (These treatments are part of the so-called permanent plot experiment.)



### Conclusions:

- As predicted, the best nutrient response occurred when both Pro-Germinator and Sure-K were applied. This ensured that one nutrient would not be short and limit response to a single nutrient.
- These results are a good illustration of the "synergism" concept. You may expect the response of application of Sure-K + Pro-Germinator to be the sum of the individual responses. That would be 6.8 Bu/A + 17.9 Bu/A = 24.7 Bu/A. But the actual increase was 29.9 Bu/A. This shows that the Pro-Germinator and Sure-K work best together to ensure that the needed nutrition is there for best corn growth.