Permanent Fertilizer Programs in a Corn - **Soybean** Rotation (7 year average)

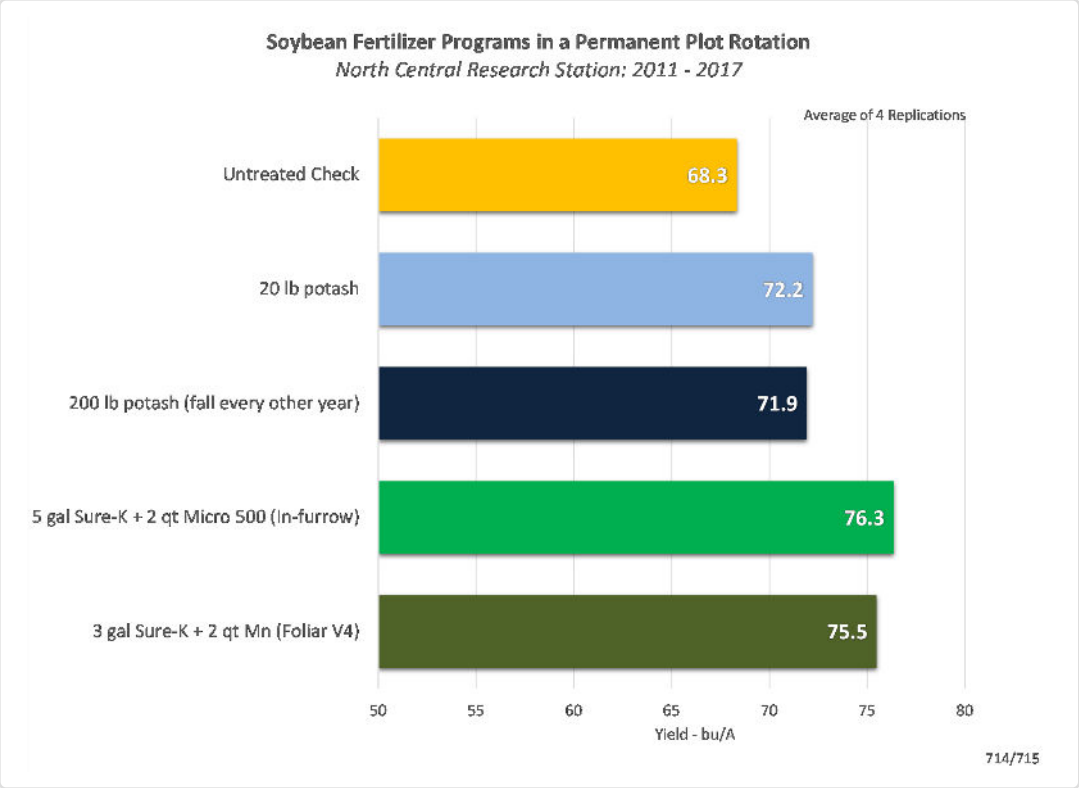
Experiment Info:	
Planted:	5/20/2017
Harvest:	10/10/2017
Yield Goal:	60 bu/A
Target Fert.:	0-63-100
Variety:	21LH02
Population:	150,000
Row Width:	15"
Prev. Crop:	Corn
Plot Size:	15 x 210
Replications:	4

Soil Test Values (ppm):	
pH:	6
CEC:	11.4
%OM:	2.3
Bray P1:	12
Bicarb P:	
K:	106
S:	24
%K:	2.4
%Mg:	17
%Ca:	64.8
%H:	14.8
Zn:	.7
Mn:	7
B:	.5

Objective:

To evaluate long-term fertilizer program effects on soybean yield over time.

Starting in 2011 a long-term experiment in a corn-soybean rotation was developed to evaluate fertilizer program effects on crop yield and soil test levels. Treatments were applied in the same location each year. Four main fertility programs were evaluated in the soybean year. (1) AgroLiquid planter program including 5 gal/A Sure-K and 2 qt/A Micro 500, (2) AgroLiquid foliar program of 3 gal/A Sure-K + 2 qt/A Mn at V4, (3) full rate dry program of 200 lbs/A muriate of potash, (4) low rate dry program of 20 lbs/A muriate of potash. This low rate fertilizer treatment matches the actual pounds of potassium that the AgroLiquid planter program provides. Potash applications were applied in the fall following soybean harvest to provide potassium for the following years corn and soybeans the year after that. These fertilizer treatments are compared to a no fertilizer check. Fertilizer programs and yields for the corn portion along with soil test changes from this experiment can be found in the corn section of this report. Soybean yields appear on the chart below.



LSD(0.1) 3.3 CV:8.4%

Conclusions:

- All four fertilizer applications increased soybean yield over the no fertilizer check.
- After seven years of testing and applications, the two rates of potash still provide similar yields with an average of less than 1 bu/A difference.
- As we have seen in other testing, the seven year average of the AgroLiquid foliar and planter applications are yielding very similar, however the foliar application is made at a lower rate then the planter application.