



# Permanent Plots - Soybeans After 9 Years ( 19-714/715 )

### Experiment Info:

Planted:	6/19/2019
Harvest:	11/24/2019
Yield Goal:	60 bu/A
Target Fert.:	
Variety:	19GA02
Population:	145,500
Row Width:	15"
Prev. Crop:	Corn
Plot Size:	15 x 300
Replications:	4

### Soil Test Values (ppm):

pH:	6.1
CEC:	10.5
%OM:	2.4
Bray P1:	10
Bicarb P:	
K:	94
S:	4
%K:	2.3
%Mg:	16.7
%Ca:	66
%H:	14.7
Zn:	1.2
Mn:	6
B:	.5

### Objective:

To evaluate 15" soybean yields over time using the same programs in a corn-soybean rotation.

Beginning in 2011, a long-term experiment in a corn-soybean rotation was developed to evaluate fertilizer program effects on corn and soybean yields over time. There are two adjacent test sites where the corn and soybeans are grown in rotation. Five main fertility programs were evaluated in the soybean year with rotation to a corresponding corn treatment. These are: 1) No Fertilizer. 2) AgroLiquid planter application of Sure-K + Micro 500; 3) AgroLiquid foliar application of Sure-K + Manganese at the V4 stage. 4) Low rate potash (0-0-62) applied in the fall after soybean harvest. Low rate matches amount of K2O in Sure-K applications. 5) and 6) Conventional: 200 lb/A of Muriate of Potash (0-0-62) applied in the fall after soybean harvest for the next corn and soybean crops.

There are two fields used in a corn-soybean rotation where programs are in the same plots.

<b>Fertilizer Program Effects on Yield of Soybeans in 15" Rows.</b>										
<b>Programs applied to the same plots in a corn - soybean rotation.</b>										
<i>North Central Research Station (Fields 714/715)</i>										
Program		Fertilizer Rates per Acre and Placement								
1	<b>No Fertilizer</b>									
2	AgroLiquid planter	5 gal Sure-K + 1 qt Micro 500 (in furrow)								
3	AgroLiquid foliar	3 gal Sure-K + 2 qt Manganese (foliar V4)								
4	Low Rate Potash	20 lb 0-0-62 (Fall after soybeans)								
5	Potash	200 lb 0-0-62 (Fall after soybeans)								
6	Potash	200 lb 0-0-62 (Fall after soybeans)								
Yield (Bu/A) by Year (Yields average of 4 replications)										Extra Bu/A
	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average over 9 yrs.
1	70.3	81.8	61.4	61.1	68.1	72.2	63.4	75.5	59.6	69.2
2	77.5	89.6	66.2	66.7	70.4	86.1	71.5	77.5	65.4	75.7
3	75.8	87.8	71.6	66.7	71.3	86.1	69.9	75.7	66.8	75.6
4	76	85.6	63.4	63.8	68.3	82.1	66.2	78.5	63.9	73.0
5	73.1	83.6	63.2	65.9	68.5	85.1	68.4	82.3	65.5	73.8
6	72.9	84	64.1	64.9	67.3	83.3	66.8	84.2	63.1	73.4
	<b>74.3</b>	<b>85.4</b>	<b>65.0</b>	<b>64.9</b>	<b>69.0</b>	<b>82.5</b>	<b>67.7</b>	<b>79.0</b>	<b>64.1</b>	<b>73.5</b>

### Conclusions:

- The 2019 soybean crop yielded quite well for being planted on June 19. In fact, overall the average yield is very good (73.5 Bu/A average) on this good ground.
- For the nine crop years, the AgroLiquid planter and foliar yields were essentially identical, and had a 9.4% average yield increase over that of the No Fertilizer check.
- The column on the right shows the extra bushels per acre obtained over the untreated check over the nine seasons. Using AgroLiquid fertilizer resulted in 58.4 and 57.7 more Bu/A, which is almost like a whole year's extra crop. This had a good Return On Investment and was higher in yield than any other program.