



Three-year soil sample results from the Permanent Plots (Field 715)

Experiment Info:

Planted:	5/17/2019
Harvest:	11/08/2019
Yield Goal:	175 bu/A
Target Fert.:	
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:

Follow soil test results from the past 3 years of treatments in the same plots. (Rates per A):
 AgroLiquid. Corn: 3 gal Pro-Germ + 5 gal Sure-K + 2 qt Micro 500; 47 gal 28%/eNhance Y-Drop. 15" Soybeans: 5 gal Sure-K + 1 qt Micro 500 In Furrow.
 Low rate conventional (same nutrient lb/A as AgroLiquid). Corn: 20 lb 0-0-60 after soybean harvest; 2 gal 10-34-0 + Zn + Mn in furrow; 47 gal 28% Y-Drop. Soybeans: No fertilizer
 Conventional Liquid/Dry. Corn: 200 lb 0-0-60 after soybean harvest; 7.5 gal 10-34-0 + Zn + Mn in furrow; 57 gal 28% Y-Drop. Soybeans: No fertilizer
 Conventional dry. Corn: 200 lb 0-0-60 after soybean harvest; 65 lb DAP (18-46-0) + 365 lb urea + Zn + Mn pre-plant incorporated; Soybeans: No fertilizer.
 These treatments have been applied to these same plots in corn-soybean rotation since 2011. The starting soil test levels for the field are in the information boxes on the left.

Soil Sample Results from Field 715. Average of Reps 2, 3 and 4.

Samples collected after harvest with soil probe. 12 total cores per plot: 2 from the row and 10 from between the rows.

2017 - Corn										
treatment	pH	% OM	CEC meq/100g	P1 ppm	P2 ppm	K ppm	Ca ppm	S ppm	Zn ppm	Yield Bu/A
AgroLiquid	6.5	3.6	12.8	9	39	89	1881	15	1.2	212.1
low rate conv	6.4	3.0	11.6	8	38	85	1636	14	1	190.7
conv liquid/dry	6.3	2.9	11.0	8	37	91	1521	15	1	212.5
conv dry	6.4	2.7	11.7	7	39	82	1638	15	1.3	197.5
N only	6.6	2.9	11.5	7	38	70	1660	15	0.8	184.2

2018 - Soybeans										
treatment	pH	% OM	CEC meq/100g	P1 ppm	P2 ppm	K ppm	Ca ppm	S ppm	Zn ppm	Yield Bu/A
AgroLiquid	6.5	3.2	13.2	9	45	81	1908	5	1.3	79
low rate conv	6.4	2.9	12.7	7	44	82	1732	5	1.2	74
conv liquid/dry	6.3	2.8	13.0	6	46	83	1791	5	1.1	78.5
conv dry	6.3	2.7	13.1	8	49	84	1826	5	1.5	80.4
N only	6.5	2.9	12.4	7	46	72	1792	5	1.1	71.1

2019 - Corn										
treatment	pH	% OM	CEC meq/100g	P1 ppm	P2 ppm	K ppm	Ca ppm	S ppm	Zn ppm	Yield Bu/A
AgroLiquid	6.5	3.9	13.1	9	40	85	1956	5	1.4	197.4
low rate conv	6.5	3.0	12.1	8	40	80	1745	5	1.6	178.4
conv liquid/dry	6.4	3.1	12.0	7	39	86	1733	5	1.1	200.8
conv dry	6.3	3.1	12.0	9	42	90	1697	5	1.6	181.4
N only	6.5	2.9	12.2	7	42	80	1810	5	1.1	167.4

Conclusions:

- There has been a decrease in the soil nutrient levels since the beginning of the experiment in 2011. This is likely due to the programs being set for 175 Bu/A corn and 50 Bu/A soybeans in this dryland field. But the good soil has produced yields far in excess of that, and input has not matched removal. But the treatments were kept for evaluations.
- It is interesting that the average soil tests really don't vary much between treatments, even though the total pounds of nutrients vary widely between the conventional full rates and the AgroLiquid: lb/A total N-P2O5-K2O: AgroLiquid: 158; Conventional: 265.
- After the final year in 2020, it would be interesting to compare effects of build-up rates.