



Nitrogen Source and Method of Application Comparison in Irrigated Corn (18-508)

Experiment Info:

Planted:	4/30/2018
Harvest:	9/27/2018
Yield Goal:	220 bu/A
Target Fert.:	240N
Variety:	P0242AMXT
Population:	38,000
Row Width:	30"
Prev. Crop:	Wheat
Plot Size:	15 x 290/310
Replications:	4

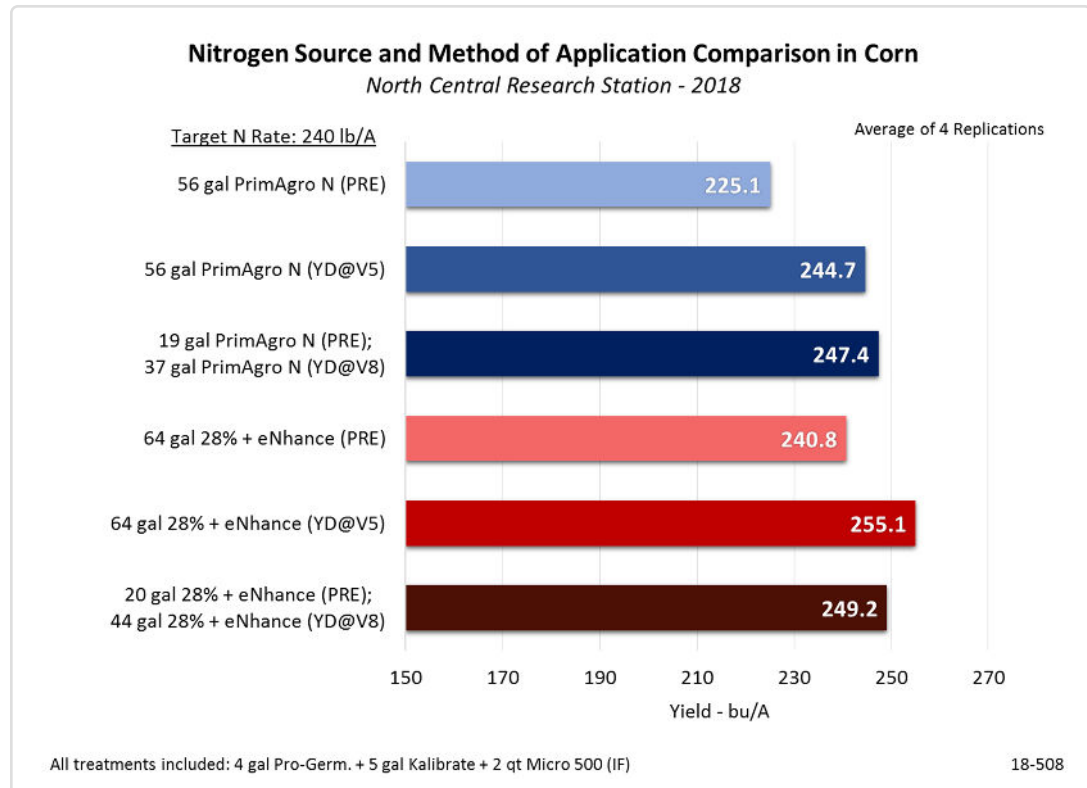
Soil Test Values (ppm):

pH:	6.9
CEC:	7.2
%OM:	1.5
Bray P1:	24
Bicarb P:	
K:	48
S:	6
%K:	1.7
%Mg:	19.3
%Ca:	77.9
%H:	
Zn:	1
Mn:	6
B:	.5

Objective:

To compare AgroLiquids' PrimAgro N with 28% UAN + eNhance at different timings and application methods.

Nitrogen applied on the soil surface can be at risk for loss due to volatilization of ammonia. PrimAgro N is stabilized through proprietary Flavonol Polymer Technology that protects the nitrogen while reducing losses from nitrate leaching and ammoniacal or urea volatility. With the addition of nitrogen-fixing bacteria and other important soil microbes, PrimAgro N is an efficient use fertilizer allowing less applied gallons while maintaining yields compared to conventional UAN sources. These conventional UAN sources can also be improved by using AgroLiquids' eNhance to amend all three forms of nitrogen in the UAN and mitigate nitrogen loss pathways of volatilization, leaching and denitrification in the soil. Past research has shown benefits to split applications on N to allow for greater plant use throughout the growing season. The three methods of application and timing used in this experiment were 1) all N as a pre-emerge application directly after planting and broadcasted on the soil surface, 2) all N at V5 growth stage using Y-Drops and 3) a split of pre-emerge and Y-Drop at V8. A total effective N rate of 240 lbs/A was used with yields shown in the chart below.



LSD(0.2)13.5, CV:7.2%

Conclusions:

- A split application of PrimAgro N resulted in a non significant yield advantage of 2.7 bu/A over the single Y-Drop application at V5 and a significant 22.3 bu/A yield increase over the single pre-emerge application.
- A single application by Y-Drop at V5 of 28% UAN + eNhance resulted in the largest yield of 255.1 bu/A in these comparisons.
- The higher N equivalency of 4.25 lb-N / gallon for PrimAgro N enabled fewer gallons of product applied to achieve nearly the same yield as 28% UAN + eNhance.