



Multiple Year Nitrogen Methods of Application Comparison in Corn (15-1102 & 16-702)

Experiment Info:

Planted:	5/9/2016
Harvest:	10/25/2016
Yield Goal:	175 bu/A
Target Fert.:	
Variety:	DKC 53-68 RIB
Population:	32,800
Row Width:	30"
Prev. Crop:	Soybeans
Plot Size:	15 x 265
Replications:	4
Sidedress/	6/13/2016

Soil Test Values (ppm):

pH:	6.1
CEC:	14.5
%OM:	2.5
Bray P1:	10
Bicarb P:	-
K:	131
S:	11
%K:	2.3
%Mg:	14.4
%Ca:	69.1
%H:	13.9
Zn:	1.4
Mn:	10
B:	0.6

Objective:

To compare the data from 2 consecutive years of different methods of nitrogen application in corn.

All treatments used High NRG-N to efficiently supply the nitrogen needs of this corn. The methods of application include pre emergence, coulters injected sidedress and 360 Yield Y-Drop. The ease of convenience is often the reason for many pre emergence applications of nitrogen. But there is high risk of nitrogen loss from this convenience. Sidedress applications at V5 places the nitrogen closer to the greatest uptake period of growth. This experiment also included a two or three way split application comparison using the above methods to determine the effects of split timing of application on yield as well.

TIMING METHODS OF APPLICATION

Product	2015	2016	AVG
▶ Pre Emergence	125.3	136.0	130.7
▶ Sidedress at V5	133.7	148.2	141.0
▶ 1/3 PRE; 2/3 SD V5	128.5	141.4	135.0
▶ 1/3 PRE; 2/3 YD V5	141.4	154.9	148.2
▶ 1/3: PRE; SD V5; SD V10	128.8	148.7	138.8
▶ 1/3: PRE; SD V5; YD V10	130.7	133.8	132.3

15-1102 and 16-702

All treatments received High NRG-N at 40 or 45 gal/A total application.



LSD(0.2)7.0, CV: 10%

Conclusions:

- The highest two year yield average was a split of 1/3 of High NRG-N applied PRE and 2/3 applied with Y-Drop at V5.
- A sidedress application at V5 increased two year yield average over 10 bu/A above the pre emergence application.
- Late sidedress applications, greater than V10, of High NRG-N are not recommended.
- Yields were much lower than yield goals for both years. The experiment in 2015 had late planting and abundant rainfall during the season. The 2016 experiment experienced heavy rain after planting and very dry conditions for the summer months, lowering yields much below normal levels.