Foliar Fertilizer Application Tool Evaluation on Corn: 2 Year Average (16-704 & 15-312)

Experiment Info:	
Planted:	5/1/2016
Harvest:	10/25/2016
Yield Goal:	175 bu/A
Target Fert.:	193-60-89
Variety:	Pioneer 0157
Population:	33,000
Row Width:	30"
Prev. Crop:	soybeans
Plot Size:	15 x 265
Replications:	4
FOL (VT)	7/28/2016

Soil Test Values (ppm):	
pH:	6.3
CEC:	14.9
%OM:	2.2
Bray P1:	16
Bicarb P:	-
K:	101
S:	11
%K:	1.7
%Mg:	16.9
%Ca:	70.2
%H:	10.8
Zn:	1.2
Mn:	6
B:	0.6

Objective:

To determine yield benefits of foliar fertilizer applications utilizing different application tools.

Historically, yield response to foliar fertilizer applications on corn grown with a complete fertility program has not consistently shown a yield benefit. However, combining applications of fertilizer with late season fungicide treatments saves application costs, reducing the economic risk of making these applications. This year marks the second year of testing at the NCRS of 360 Yield Center's UnderCover in comparison to a broadcast application with a Turbo TeeJet nozzle. The UnderCover has 3 nozzles pointed in different directions and is placed within the crop canopy, providing more coverage of the crop. The broadcast is applied over the top of the crop, with less penetration into the canopy. This experiment evaluated two treatments: (1) 2 gal/A ferti-Rain and (2) 2 gal/A ferti-Rain with 10 oz/A Headline® SC fungicide. Both treatments were tested on the two different foliar application tools UnderCover (UC) and broadcast (BC). Applications were made at a total spray volume of 10 gal/A on tasseling corn. This trial was conducted in 2015 and 2016, and two year yield results appear below.

FOLIAR APPLICATIONS ON CORN AT VT

Product	2015	2016	AVG
No Foliar Application	194.7	161.4	**178.1**
2 gal ferti-Rain (BC)	201.2	165.3	**183.3**
2 gal ferti-Rain (UC)	212.9	167.5	**190.2**
2 gal fR + Headline (BC)	210.5	171.9	**191.2**
2 gal fR + Headline (UC)	218.7	171.1	**194.9**

15-312 and 16-704

LSD(0.05)14.2 LSD(0.1)11.8 LSD(0.2)9.1, CV:11.5%

Conclusions:

- Broadcast provided increased yield with both of the foliar fertilizer treatments compared to the no foliar check.
- Average from the last two years has shown that applications made with the UnderCover yielded higher than the broadcast application.
- Applications of 2 gal/A ferti-Rain increased yield by over 5 bu/A with the broadcast nozzles and 12 bu/A with UnderCover.
- The addition of Headline fungicide to the foliar fertilizer application further increased corn yield by nearly 8 bu/A with the broadcast nozzles and nearly 5 bu/A with the UnderCover.