



Fertilizer Methods of Application Comparison in Corn (17-709)

Experiment Info:

Planted:	5/16/2017
Harvest:	11/8/2017
Yield Goal:	175 bu/A
Target Fert.:	191-45-30
Variety:	DKC52-68
Population:	34000
Row Width:	30"
Prev. Crop:	
Plot Size:	15 x 255
Replications:	4

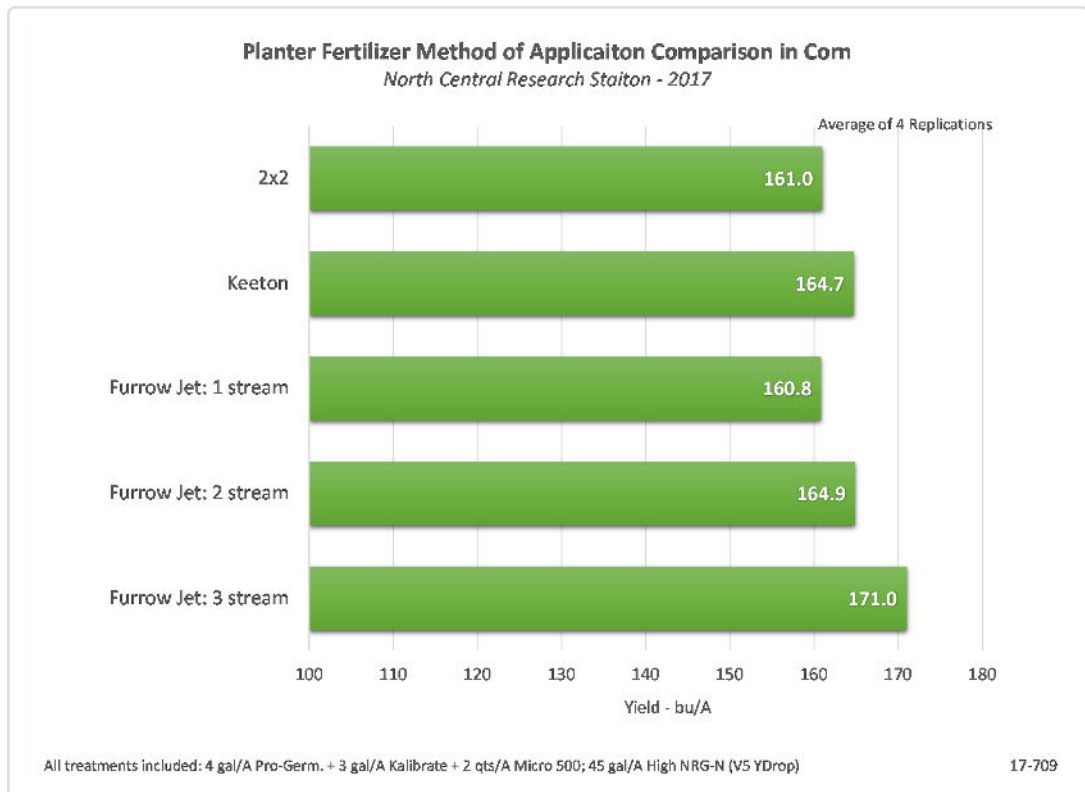
Soil Test Values (ppm):

pH:	6.1
CEC:	10.5
%OM:	2.6
Bray P1:	19
Bicarb P:	
K:	126
S:	7
%K:	3.1
%Mg:	19.2
%Ca:	63.6
%H:	13.8
Zn:	1.1
Mn:	8
B:	4

Objective:

To evaluate planter fertilizer placement methods for effects on yield.

In-furrow and 2x2 planter placements are fairly common practices for placing fertilizer to provide essential nutrients to the growing plant. A new attachment from Precision Planting, the FurrowJet, was attached to the planter for comparisons in this experiment. The FurrowJet (FJ) has 3 potential placement options for fertilizer in or near the seed furrow. The applications compared 1 stream (placing fertilizer directly over the seed in the furrow), 2 streams (placing fertilizer into each side of the seed furrow, approximately 3/4" from the seed and slightly above the seed placement) and 3 streams (utilizing a combination of the 2 previous methods). Keeton seed firmers placed the fertilizer treatments in-furrow over the seed and to the sides of the seed furrow using the stream splitter. Seed safety is always a concern and placing AgroLiquid products in-furrow is a common practice with its low salt contents. All treatments used 4 gal/A Pro-Germinator + 3 gal/A Kalibrate + 2 qts/A Micro 500 (for a total of 7.5 gal/A with the planter, split evenly between the exit points) and 45 gal/A High NRG-N @ V5 using Y-Drops. Yield results appear in the chart below.



LSD(0.2)9.1, CV:10.2%

Conclusions:

- The FurrowJet 3 stream resulted in a significant 10 bu/A yield advantage over the 2x2 placement. Nutrient placement closer to the seed and some in-furrow allowed for possibly better uptake than the 2x2 placement.
- The Keeton seed firmers using the splitter and placing the fertilizer to the sides of the seed trench had a 3.9 bu/A advantage over the FurrowJet 1 stream that placed fertilizer directly onto the top of the seed and the same yield as the FurrowJet 2 stream.
- The FurrowJet attachment has opportunities to place additional fertilizer amounts near the seed while maintaining seed safety. There is also the ability to apply two different products/mixes, one in the furrow and one into the sides of the furrow.