Potassium Fertilizer Comparisons on Corn (20-717)

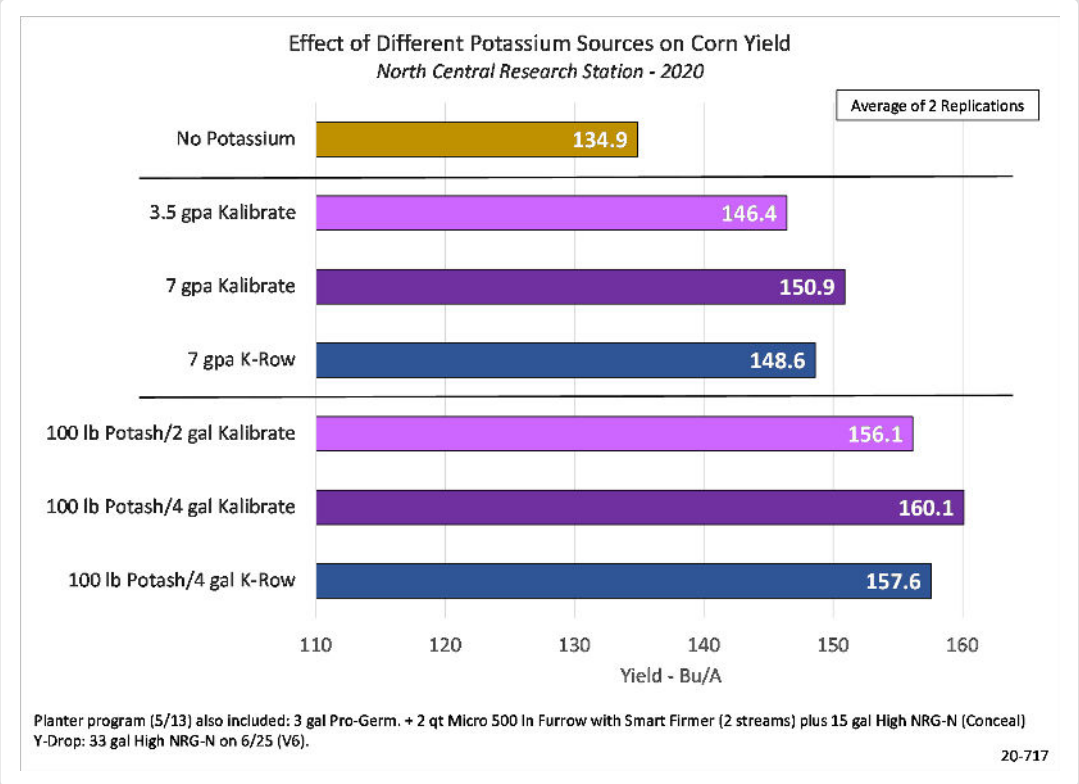
Experiment Info:	
Planted:	5/13/2020
Harvest:	10/20/2020
Yield Goal:	175 bu/A
Target Fert.:	190-60-100
Variety:	DKC 47-54 RIB
Population:	33,000
Row Width:	30"
Prev. Crop:	Wheat
Plot Size:	15 x 210
Replications:	4

Soil Test Values (ppm):	
pH:	7.3
CEC:	15.8
%OM:	3.5
Bray P1:	7
Bicarb P:	13
K:	95
S:	6
%K:	1.5
%Mg:	23.6
%Ca:	74.7
%H:	0
Zn:	0.7
Mn:	2
B:	0.4

Objective:

A no-till experiment was established in corn (following wheat) with the objective of evaluating two liquid potassium sources applied at planting with and without pre-plant broadcast muriate of potash for effects on yield.

In this experiment, a cover crop of cereal rye was planted after wheat harvest in 2019. Six days prior to planting, muriate of potash (0-0-62) at a rate of 100 lb/A was applied to selected plots with the customized Gandy blower applicator. The cover crop was sprayed for burndown and planted with the test liquid fertilizer treatments applied in the seed furrow with a split-stream seed firmer applicator. If there was no potash, the full rate was 7 gal/A of Kalibrate and K-Row and also a half-rate of 3.5 gal/A of Kalibrate. With potash, the liquid K fertilizer rates were reduced to a 4 gal/A full rate and a 2 gal/A half rate of Kalibrate. The K fertilizers were combined with 3 gal/A Pro-Germinator + 2 qt/A Micro 500. There was a no-potassium check that had the Pro-Germinator + Micro 500 to measure K fertilizer response.



LSD(0.2): 11.2. CV: 7.6%

Conclusions:

- The addition of liquid potassium fertilizers resulted in a significant yield increase.
- Overall, there was a yield increase with the addition of potash, which may be expected when the % base saturation for K is 1.4%.
- Within the two potash groups, the yield with the full rate of Kalibrate was slightly higher than that with K-Row, although the increase was not statistically significant.
- The yield with the half rate of Kalibrate was similar to that with the full rate of K-Row.