



# In-Furrow Phosphorus Product Comparisons for Corn ( 21-718 )

### Experiment Info:

Planted:	5/25/2021
Harvest:	9/30/2021
Yield Goal:	200 bu/A
Target Fert.:	220-109-97
Variety:	DKC 51-40 RIB
Population:	32,000
Row Width:	30"
Prev. Crop:	Wheat
Plot Size:	15 x 210
Replications:	4

### Soil Test Values (ppm):

pH:	6.8
CEC:	13.8
%OM:	3.1
Bray P1:	8
Bicarb P:	0
K:	96
S:	5
%K:	1.8
%Mg:	22.9
%Ca:	75
%H:	0
Zn:	1
Mn:	3
B:	0.4

### Objective:

To evaluate common phosphorus sources for effect on yield when applied in-furrow at planting as a pop up fertilizer.

Field conditions were ideal for the spring broadcast applications of 100 lbs/A MAP + 150 lbs/A potash and the strip till application of 12 gal/A 10-34-0 at 4" depth on all treatments on April 26th. Corn was planted at 32,000 population on May 25th at seed depth of 2" with 3 gal/A of each product listed below placed in-furrow using SmartFirmer® with splitter fertilizer attachment. A check treatment of no in-furrow phosphorus was a comparison. All treatments also recieved 20 gal/A High NRG-N planter application and 46 gal/A 28%/eNhance + 2 gal/A Kalibrate as a Y-Drop sidedress application at V7. Stand counts were taken at 14 days after planting and are presented in the chart below along with yields, grain moisture and test weight at harvest.

<b>Phosphorus Comparison in Corn</b>					
<i>North Central Research Station - 2021</i>					
<b>Treatments</b>	<b>14 Day Stand Count</b>	<b>Bu/Ac</b>	<b>Bu/Ac Difference</b>	<b>Moisture</b>	<b>TW</b>
springuP	26,136	221.5	+ 15.7	24.4	51.2
Pro-Germinator	31,363	220.9	+ 15.1	24.3	51.2
springuP + .5 gal Micro 500	28,749	220.2	+ 14.4	24.1	51.2
10-34-0	28,749	219.1	+ 13.3	24.5	51.0
Nachurs 6-24-6	25,265	217.8	+ 11.9	24.1	51.3
9-18-9	28,749	216.1	+ 10.3	24.1	51.2
Riser	30,492	213.6	+ 7.8	24.5	51.1
No Planter Phosphorus	28,749	205.8	--	24.2	51.4

All treatments: 100 lbs/A MAP + 150 lbs/A Potash (PPI); 12 gal/A 10-34-0 (ST); 20 gal/A High NRG-N (Conceal); 46 gal/A 28% & eNhance + 2 gal/A Kalibrate (YD); 3 gal/A of each phosphorus product

Average of 4 Replications      21-718

LSD(0.05)6.8,CV:4.6%

### Conclusions:

- A 3 gal/A in-furrow application of springuP yielded the highest at 221.5 bu/A although early stand was reduced compared to Pro-Germinator.
- Pro-Germinator in-furrow resulted in the highest stand count of all the treatments tested in this experiment proving in-furrow seed safety.
- Moisture and test weight differences were very small in this field.
- All in-furrow treatments increased yield compared to the no-phosphorus treatment. This points to the need for early and available phosphorus to the corn seed as it starts it journey to reproducing.