



# Agronomy Bulletin

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## Pop-Up Starter

Pop-up or in furrow starter fertilizers have the following advantages for the corn plant:

1. Meets early nutritional needs of the plant
2. Efficient application of applied nutrients
3. Insurance program against adverse plant growth conditions
4. Crop appearance can be enhanced
5. Zinc applications can be made efficiently

Research from our Agronomy 10 Research Center at Walcott on a 2 year study has shown that we can increase corn yields by better than 5 Bu/A while improving net dollars (\$) per acre by almost \$11.00 per acre, Table 1.

**Table 1 Influence of Pop-Up Starters on Continuous Corn for 2 Years**

Product	Starter		Yield* Bu/A	Harvest Moisture (%)	\$/A	
	Gallons/A	Analysis/A			Cost	Net
None	0	-----	206.4	27.8	----	----
6-24-6	5	3.36-13.44-3.36	211.8	27.7	21.64	10.76

\*AV for 2 years  
Corn: \$6.00/Bu  
6-24-6: 772.73/Ton

Source: Twin State, Inc.  
Agronomy 10 Research Center  
Walcott, IA

Suggested pop-up or in furrow applied starters:

1. Rate: 3 to 5 gallons/A
2. Product: 6-24-6-.25zn
3. Additional zinc: 1 pt. of 9% zinc chelate can be added to the 6-24-6-.25zn per 100 lbs. of product
4. Caution: Do not add ammonium thiosulfate (ATS) or potassium thiosulfate (KTS)

The following, Table 2 illustrates the maximum amounts of salt that can be placed safely close to the germinating seed.

<b>Table 2 Maximum Starter Rates</b>		
<u>Placement of Starter</u>	<u>Soil Cation Exchange Capacity (CEC)</u>	
	<u>≤12 (light texture soils)</u>	<u>≥12 (med to heavy texture soils)</u>
	-----lbs/A*-----	
In contact with seed	5	5 to 8
¼ to ½ inch from seed	8	7 to 15
1 to 2 inches from seed	15	20 to 40
Over 2 inches from seed	20+	40+

\*Nitrogen + Potassium

Table 3 illustrates the pounds of salt found in the pop-up fertilizers at 3 application rates.

<b>Table 3 Amount of Salt for Three Rates of Pop-Up Fertilizer</b>		
<u>Product</u>	<u>Rate/(Gallons/A)</u>	<u>lbs. Salt/A</u>
6-24-6-.25zn	3	4.036
	4	5.381
	5	6.726
9-18-9	3	6.021
	4	8.028
	5	10.035



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