

SelectShot™

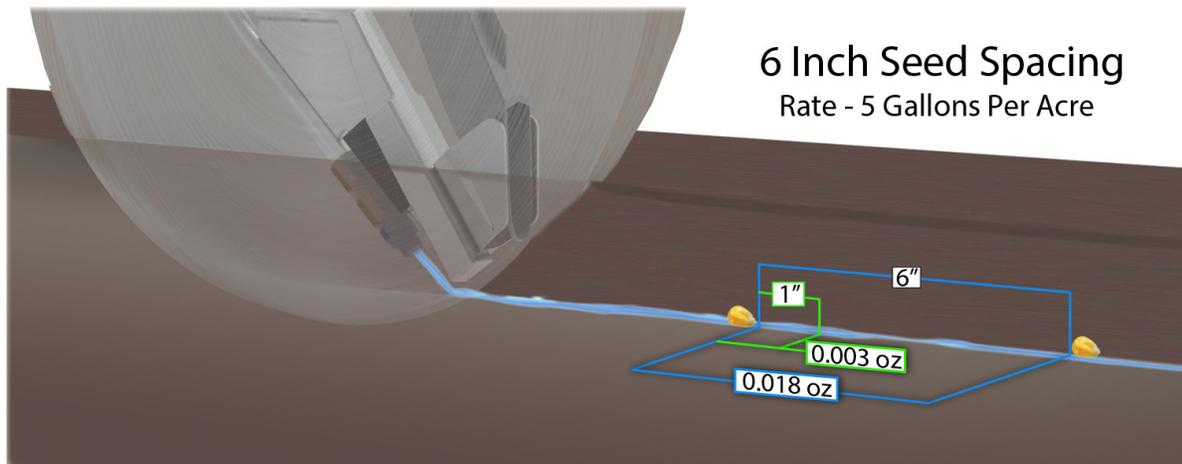


System Features & Performance Review

Dribble Application

Traditional dribble application has been the preferred method of liquid application at the seed level for many years. This application style often over and under applies the true amount of product for each seed. Many companies offer solutions to the over and under application possibility, as shown by increased yields. Although increased yields may be a real possibility with those products, the true yield gain and payback time are typically not discussed.

Below is a look at an example of a dribble application, showing the true amount of product applied.



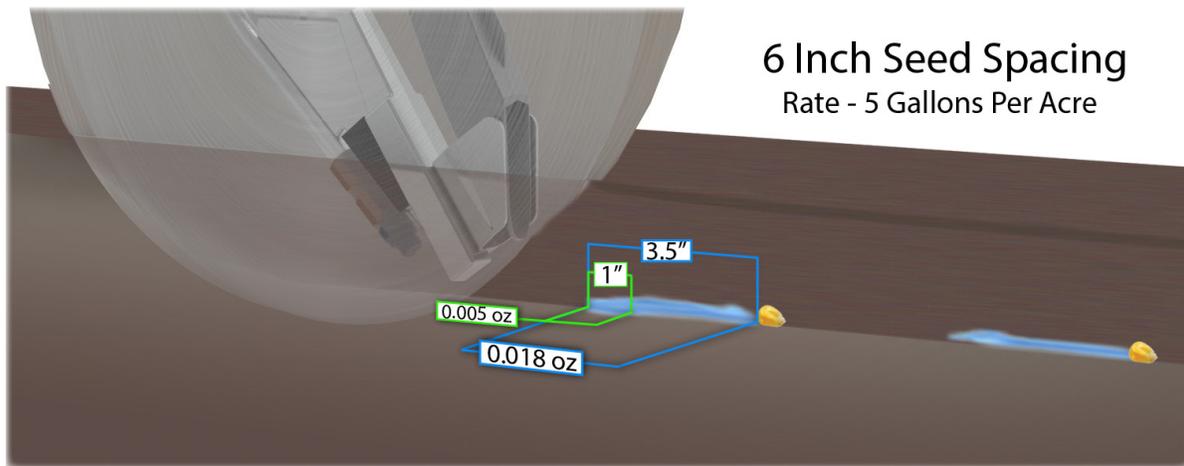
1.0 inch concentration applied at 5 GPA dribble.

$.003 \text{ oz.} * 6.0 \text{ inches} = .018 \text{ oz.}$ | $.018 \text{ oz.} * 34,848 \text{ pop} = 627 \text{ oz.}$ | $627 \text{ oz.} \div 128 = 4.90 \text{ GPA}$

SelectShot™ Application

CapstanAG™ has an elite product specifically for planters that, with proven results, will maintain yield with less input. SelectShot™ applies a concentrated shot of liquid to the location relative to the seed, providing the optimal amount of product per inch with a reduced total applied rate. SelectShot™ operates differently than a traditional dribble system, with the same principle in mind.

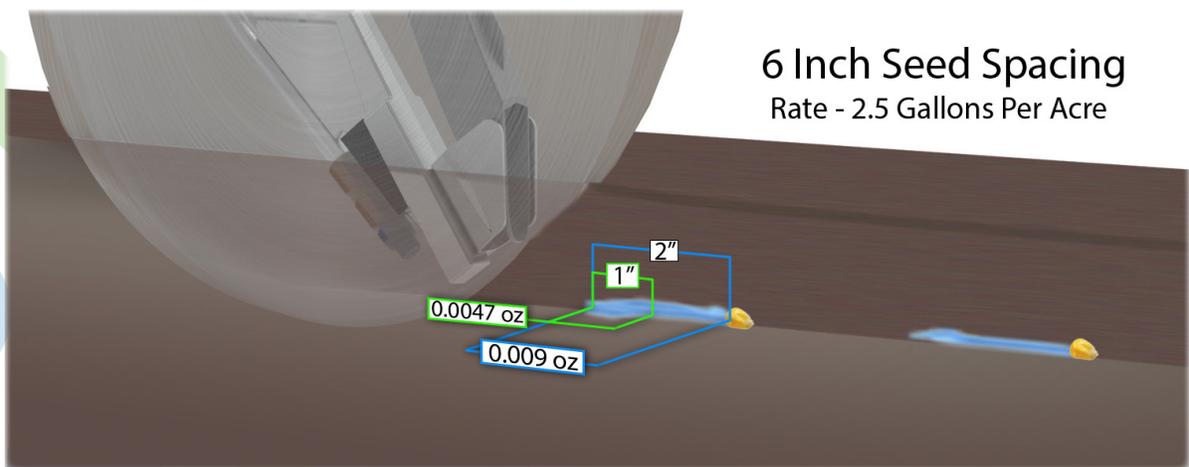
Below shows two SelectShot™ application potentials, wherein both show ample product is applied for the seed when planted as well as at a later life stage of the plant.



6 Inch Seed Spacing
Rate - 5 Gallons Per Acre

1.0 inch concentration applied with SelectShot at 5.0 GPA.

$.005 \text{ oz.} * 6.0 \text{ inches} = .030 \text{ oz.} | .030 \text{ oz.} * 34,848 \text{ pop} = 1045 \text{ oz.} | 1045 \text{ oz.} \div 128 = 8.16 \text{ GPA}$



6 Inch Seed Spacing
Rate - 2.5 Gallons Per Acre

1.0 inch concentration applied at 5 GPA dribble.

$.0047 \text{ oz.} * 6.0 \text{ inches} = .028 \text{ oz.} | .028 \text{ oz.} * 34,848 \text{ pop} = 976 \text{ oz.} | 976 \text{ oz.} \div 128 = 7.62 \text{ GPA}$

Decision in Growers Hands

Product Usage



Information provided by a grower in Indiana.

Adjustments can be made to the SelectShot™ system to modify shot length and placement to meet application requirements. Cutting rate not only reduces the amount of inputs needed, but also reduces the number of times an operator must stop to refill starter during the day. This allows for more acres per day without sacrificing yield.

Decision in Growers Hands

Placement Relative to Each Seed

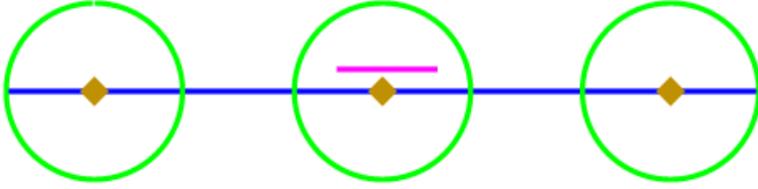
ON THE SEED:

GPA Dribble	6	GPA	Speed	4.5	MPH
Row Spacing	30	IN	Shot Offset	-1.25	IN
Effective Radius	2.0	IN	Nozzle Size	0.8	GPM
Population	32,000	seeds/acre	Pressure	25	PSI

Seed Spacing (IN)	6.53	GPA SSQ	3.67	SSQ Savings	38.78%
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	DRIBBLE	SSQ	Inches
Shot Length	6.53	2.29	
Concentration	0.27	0.27	ML of Product Available to Seed

Product Placement Comparison



ON THE SEED:

As depicted by the “Product Placement Comparison” section of this screenshot, the applied shot is placed directly on each seed.

There is a 2.0 inch radius of potential root mass surrounding each seed.

This application will save 38.78% of the product used, as seen in the “SSQ Savings” textbox.

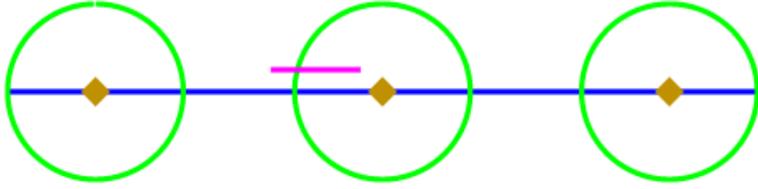
OFF THE SEED:

GPA Dribble	6	GPA	Speed	4.5	MPH
Row Spacing	30	IN	Shot Offset	0.50	IN
Effective Radius	2.0	IN	Nozzle Size	0.8	GPM
Population	32,000	seeds/acre	Pressure	30	PSI

Seed Spacing (IN)	6.53	GPA SSQ	3.67	SSQ Savings	38.78%
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	DRIBBLE	SSQ	Inches
Shot Length	6.53	2.05	
Concentration	0.27	0.21	ML of Product Available to Seed

Product Placement Comparison



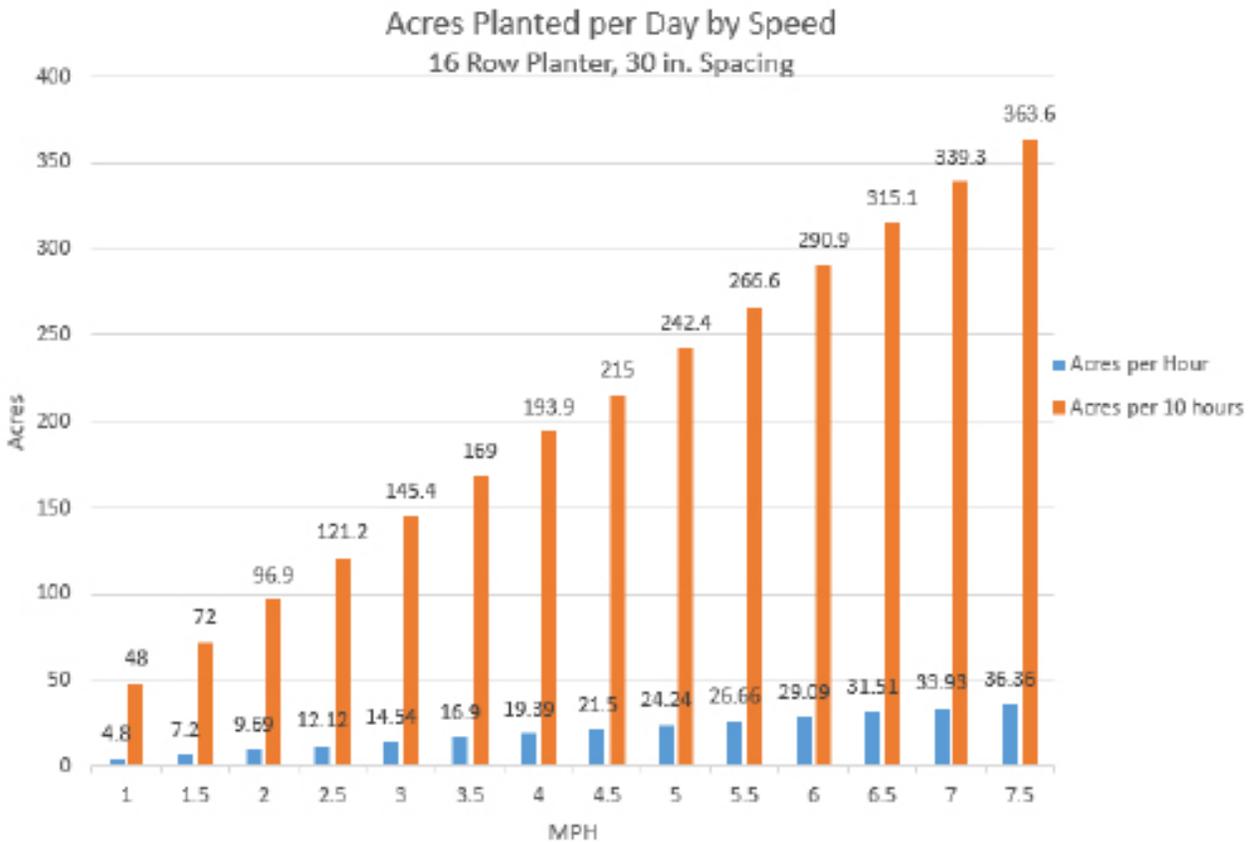
OFF THE SEED:

This product placement located 1/2 inch off of the seed also provides product savings of 38.78%.

The same 2.0 inch radius is shown, and the seed has access to the same amount of product within the radius.

Potential Time Savings

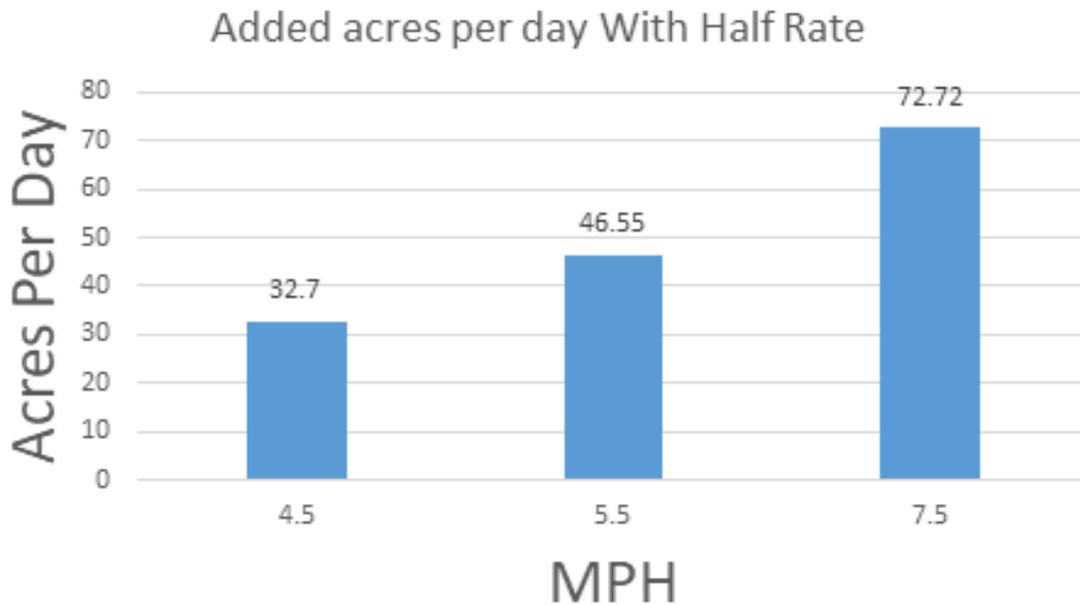
More Acres Planted Per Day



Adjustments can be made to the SelectShot™ system to modify shot length and placement to meet application requirements. Cutting rate not only reduces the amount of inputs needed, but also reduces the number of times an operator must stop to refill starter during the day. This allows for more acres per day without sacrificing yield.

Potential Time Savings

Additional Acres Per Day with Half Rate



On average, refilling takes approximately 20 minutes. By reducing the number of times a planter must be refilled with starter, acres per day increase across various MPH.

Proven Results

Farm Journal Test Plots June 2017



STARTER FERTILIZER PLACEMENT STUDY SEED-SQUIRTER®

PURPOSE

To test different starter fertilizer placements using the CapstanAG™ Seed-Squirter Application System on 30 in. row spacing and their impact on yield and profitability.

2017 RESULTS

STARTER PLACEMENT SYSTEM	PUREGRADE® DIAMOND 6-24-6 (GALLONS)	EMERGED POPULATION	POPULATION DIFFERENCE	NEPS %	BU./A.	BU./A. DIFFERENCE	RETURN ON INVESTMENT
Control: In-Furrow	5	29,334	--	74.7	229.2	--	--
Seed-Squirter [®]	5	30,583	+1,249	80.0	234.5	+5.3	+\$20.46
In-Furrow	2.5	30,667	--	81.4	234.4	--	--
Seed-Squirter [®]	2.5	30,834	+1,500	77.6	236.9	+2.5	+\$9.65

Corn \$3.86/Bu. PureGrade® Diamond 6-24-6 \$3.64/gal. Individual results may vary.

2017 SEED-SQUIRTER® STARTER PLACEMENT NET RETURN



OHIO

OBSERVATION

CapstanAG's Seed-Squirter[®] Application System is designed to more precisely apply starter fertilizer. If fertilizer can be applied more precisely, could we increase yields? By getting this fertilizer closer to the seed, we wondered if we could apply lower rates and still increase overall yields. Our first-year data indicates that yes, we can increase yields by delivering starter in closer proximity to the seed. We observed yield increases with the use of the Seed-Squirter Application System regardless of starter rate tested.

STUDY INFORMATION | Planted 5/17/2017 | Harvested 10/16/2017 | Population 32,000 Seeds/A. | Row Width 30 in. | Previous Crop Soybeans | Tillage Fall: Disk-Rip, Spring: Field Cultivation | Herbicides Pre: 5.6 oz. Corvus[®], 2 lb. Atrazine, 1 qt. Roundup PowerMAX[®] | Insecticides Escalate™ | Starter 84 gal. 28-0-0 PPI | Total Nitrogen 250 Units as UAN | Brand 6127A3 | Soil Type Westland (Silty Clay Loam) | Soil Test Values pH 6.1, O.M. % 5, CEC 18.6 | Percent Base Saturation Ca 53.7, Mg 23.3, K 3.7, H 19.3 | Parts Per Million P 53, K 268, S 10, Zn 3.8, Mn 31, B 0.9

Proven Results

Farm Journal Test Plots June 2017

COVER STORY

Starter Test Plot Recap

Building on decades of independent research, focus turns to fertilizer

BY AIMEE COPE // acope@farmjournal.com



At multiple sites using multiple planter set ups, the Farm Journal Test Plots evaluated the effect of starter. PHOTO: DARRELL SMITH

Precise Placement Adjusts Rates

Evaluating and fine-tuning starter and nitrogen fertilizer are annual efforts for the Farm Journal Test Plots program. On average, the plot research has documented a 7 bu. to 10 bu. per acre response to starter

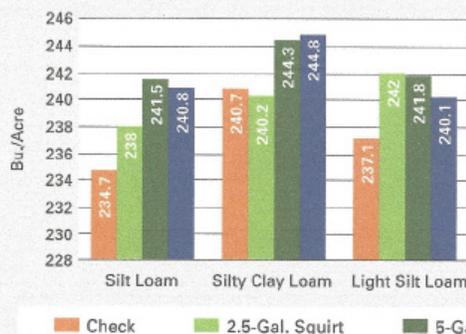
placed 2" to the side and 2" down from the surface (2x2) and a 3 bu. to 5 bu. response to in-furrow application. Using dual placement, also called the relay effect, yield has increased 15 bu. to 20 bu.

"It's like the fertilizer positions are handing off a baton. The roots find the nutrients as they need them," explains Farm Journal Field

Agronomist Ken Ferrie, who is based in central Illinois.

For years, Ferrie has found significant and consistent response using the Huckstep shoe. Due to the weather conditions in 2016, applying 7-22-5 with the Huckstep shoe resulted in even stronger responses—30 bu. to 50 bu. compared with the check (no starter).

PLACEMENT #1: YIELD RESPONSE IN TWINS (32K)



PLACEMENT #1: YIELD RESPONSE IN 30" (36K)

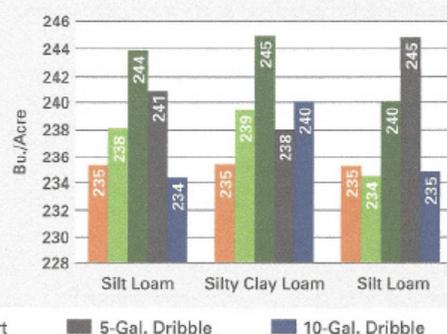
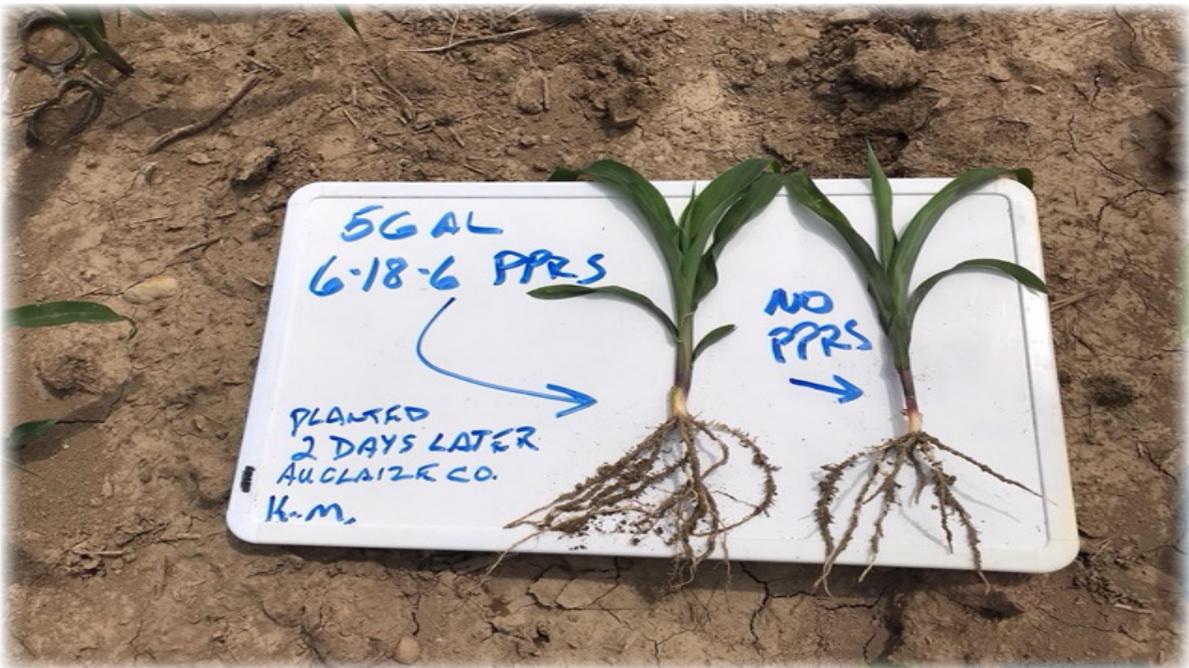


Chart at left: Using the Great Plains AccuShot in twin rows at 32,000 population, the plot compared 7-22-5+Zn applied in 2.5-gal. squirt, 5-gal. squirt and 10-gal. dribble. The 5-gal. squirt had a 3-bu. to 7-bu. gain compared with the check, with 2.5 bu. paying the fertilizer bill. Chart at right: In 30" rows at 36,000 population, the 5-gal. squirt yielded an average 7 bu. more than the 10-gal. dribble. SOURCE: FARM JOURNAL TEST PLOTS

Field Results



Left: 12 GPA 10-34-0 in a 2x2.
Right: 12 GPA 10-34-0 in a 2x2, with 5 GPA in-furrow SelectShot™ application.



Left: 12 GPA 10-34-0 in a 2x2, with 5 GPA in-furrow SelectShot™ application.
Right: 12 GPA 10-34-0 in a 2x2.

Testimonials



“Concentrated at the seed, on the seed.” - Brian Tull

“Go into dry land, and reduce your population. Go from 32 to 22. It’s using that much less product” - Rick Carmine

“With using the CapstanAG SelectShot system we were able to see better plant health at an early stage. Our kernel counts have increased in our no-till fields, with hope that it turns into more yield. For now, things are looking great for that to happen.” - Eric Barnes

