



The Power of Liquid

GOLDSTART / 10-34-0 COMPARISON

Characteristics and uses of GoldStart fertilizer

GoldStart is 80% Orthophosphate content, 20% Polyphosphate. Orthophosphate is the form of phosphate that plants can absorb into the roots. Fertilizers with high percentages of orthophosphate are recommended when immediate availability to plants is desired such as for seed furrow placement and foliar application.

GoldStart fertilizer includes NP & K. The potassium used in GoldStart is low salt index potassium hydroxide. It is becoming more widely accepted that starter and foliar fertilizers should contain potassium as well as N & P. Extremely dry or wet soils can cause a temporary potassium deficiency in young plants regardless of nutrient levels in the soil. Including K in starter fertilizer prevents early season K deficiencies.

GoldStart fertilizers have lower salt indexes.

3-18-18 = 8.5 salt index (0.22)

6-24-6 = 11.5 (0.32)

9-18-9 = 16.7 (0.48)

Number in parentheses is salt index per unit of plant nutrient (20 lb).

GoldStart, because of its lower salt index, is recommended for seed furrow placement on many crops for faster uptake of nutrients by the young root system. Crops get off to a faster start. Fertilizers with low salt indexes are safer for foliar application.

GoldStart has a longer shelf life. Because GoldStart fertilizers are made primarily from high quality phosphoric acid and potassium hydroxide there are fewer impurities to settle out during long-term storage. GoldStart fertilizers are not affected as much by temperature extremes.

GoldStart fertilizers have lower viscosities. This means they flow and pump more easily than other liquid fertilizers, especially in cooler temperatures. The approximate viscosity for GoldStart 3-18-18 is 18 centipoise and for 6-24-6 it's 40 centipoise. This means less time is needed throughout the day to readjust the rate of application as temperatures change.

GoldStart fertilizers with their high orthophosphate content, low salt index and low viscosity make them an excellent choice for both seed-furrow placement and foliar application on many crops. This efficient placement means lower rates are required for starter effect.

Characteristics and uses of conventional 10-34-0

10-34-0 is 30% Orthophosphate content and 70% Polyphosphate. The poly form of phosphate will convert to ortho with time and warm temperatures. Since time is needed for poly conversion to ortho these fertilizers are best used where immediate availability to the crop is not necessary. Fertilizers high in polyphosphates are best placed where they can be accessed by the root system later in the growing season after the poly has converted to ortho.

10-34-0 does not contain potassium. While potassium can be added it requires extra labor and mixing equipment. The resulting mix may have a short shelf life and should be used shortly after mixing, especially in cooler temperatures.

10-34-0 has a higher salt index of 20.0 (0.45). Sensitive crops have a higher potential of being damaged by 10-34-0 when placed in direct seed contact or foliar applied.

10-34-0 is usually not recommended for seed furrow placement. As we move the fertilizer band further from the seed furrow to increase safety, higher amounts of starter fertilizer are needed due to less efficient placement. The lack of potassium limits use for foliar fertilization.

10-34-0 is manufactured from standard grades of phosphoric acid that contain impurities. Over time polyphosphates lose their chelating ability to hold impurities in solution. Potentially, impurities can settle out creating additional labor for cleaning and cause plugging of filters and spray nozzles.

The viscosity for 10-34-0 is approximately 115 centipoise. This means it will be thicker and harder to pump and apply accurately during cooler temperatures thus necessitating more time to readjust the rate of application during the day as the temperature changes.

10-34-0 is best utilized as a supplemental phosphorus source placed either in a side band or banded deep with nitrogen.

Liquid Plant Food

Salt Index of Fertilizer More Important Than Ever

Growers are discovering the fertility benefits and convenience of placing starter fertilizer as close to the seed-row as possible to maximize efficiency. This requires liquid starter with a low salt index.

Accurate fertilizer placement and management is more cost effective to attain high yields. This is especially desirable on rented land where neither the landowner nor the tenant wishes to spend sums of money over many years for the fertilizer needed to build to high soil test levels. The best yield results are obtained when the starter fertilizer is placed directly into the seed furrow. This requires the starter fertilizer have a low salt index.

Fertilizer salt index is a measure of the salt concentration that fertilizer induces in the soil solution. When placed into the seed furrow, fertilizers with low osmotic pressures (low salt content) are necessary to insure safety to the germinating seed and the young, developing root system.

Starter fertilizers intended for seed-row placement use potassium phosphate for the potassium source. Nutra-Flo's PureGrade fertilizers are made with potassium phosphate. PureGrade offers seed safe fertilizers in both the GoldStart and Diamond analyses. They are intended for seed-row (*continued on back page*) placement in corn, grain sorghum, wheat and certain other crops. Other formulations may use potassium chloride for the potassium source, but they are not recommended for seed row placement.

Seed row placement of low-salt fertilizers is an excellent starter program. It easily fits all row spacings including narrow row corn. Equipment for seed furrow placement is available for all planters and drills.

Fertilizers best suited for seed-row application have a low salt index, a relatively high P content, minimize content of compounds that liberate NH₃, and use potassium phosphate instead of KCl as the K source. Nutra-Flo's PureGrade fertilizers have these desirable characteristics. Let Nutra-Flo be your source of low-salt, seed safe, PureGrade starter fertilizers.



**Low salt liquid starters
from Nutra-Flo®
produce healthy
young plants.**

TABLE 1. Salt index comparison of Nutra-Flo® PureGrade™ Liquid Plant Food with other traditional starters.

Formulation	Salt index	Salt index per unit of nutrient (20 lb)	Recommendation for seed row
2-20-20 GoldStart	7.2	0.17	Yes. Corn, Milo, Wheat on Sandy Soils
3-18-18 GoldStart	8.5	0.22	
6-24-6 GoldStart	11.5	0.32	
6-30-10 GoldStart	13.8	0.30	
9-18-9 GoldStart	16.7	0.48	
10-34-0	20.0	0.45	Use caution for seed row placement with the above listed crops. Do not use for seed row placement on other crops.
7-21-7	27.8	0.79	No
4-10-10	27.5	1.18	
28%UAN	63.0	2.25	





Liquid Plant Food

PureGrade™ Liquid Fertilizer vs. Dry Fertilizer for Starter Fertilizer Applications

PureGrade Liquid Fertilizer

PureGrade liquid fertilizers are homogeneous solutions. Every drop contains the same analysis as every other drop.

PureGrade does not settle out or “segregate” in the tank. A given analysis stays the same.

PureGrade Liquid fertilizers have low salt indexes for increased seed safety. Raw materials are chosen for their low salt index. Salt index values are available to customers.

PureGrade fertilizers are non-corrosive. It is unaffected by high humidity and rainy weather conditions.

No yield drag in dry weather. Higher amounts of nutrients are taken up by corn from liquid “pop-up” starters, including PureGrade, even when fewer pounds of nutrient are applied compared to dry fertilizer.

Application technology for seed and 2x2 placement of liquid starter fertilizers is more advanced. Fertilizer placement tubes are available for any type of planter or drill. Seed firmers manufacturers also incorporate liquid starter application needs into their designs. Many excellent designs for both seed and 2x2 liquid placement are available.

Liquid fertilizer planter application systems are very accurate. Both electric and ground drive pumps are available. Electric pumps are easily controlled from a controller in the tractor cab without additional equipment. Changing the rate of application of PureGrade is easy and can be done on the go. Liquid systems can apply lower rates more precisely. Planters can be retrofitted with liquid systems more easily and with less expense

PureGrade liquid fertilizers are easily stored on the farm in tanks. Taking early delivery of fertilizer insures it'll be ready for use when planting begins.

Plant more acres per day with less fill time with PureGrade. Many growers size their planter or saddle tanks to hold enough PureGrade to last between seed fills when planting corn. Using PureGrade requires less labor compared to dry.

PureGrade Liquid Fertilizers are made for exacting placement into the seed furrow and 2x2.

Dry Fertilizer

Dry blends can vary in consistency from batch to batch and even within a batch.

Dry blends can “segregate” during transportation and while in the planter's dry fertilizer box. This means more phosphorus here, maybe more potassium somewhere else. The industry is making improvements in this area.

Salt indexes are usually not calculated. A general system of “pounds of salt per acre” from the nitrogen and potassium chloride is often used.

Most dry fertilizers are corrosive. High humidity or rainy conditions can “cake” the fertilizer in the dry fertilizer boxes.

Dry starters can produce yield drag in dry weather according to some university research comparing liquid (including PureGrade) and dry starters.^{1,2,3}

Application equipment technology hasn't changed much with the exception of air delivery systems from pull-behind carts. Dry starter systems can only “dibble” or “scatter” granules in a seed or 2x2 slot. Continuous band placement cannot be accurately made at lower rates suitable for row placement.

Field to field rate adjustments require stopping and getting off the tractor. Dry fertilizer application systems are not as adaptable to applying lower rates accurately. Retrofitting planters with dry box systems is usually more difficult and expensive

Taking early delivery of dry fertilizer requires an expensive dry storage area and time consuming handling procedures

More stops to fill are required to fill fertilizer boxes on the planter.

Dry fertilizers fit best in situations where precise placement isn't necessary.

¹Evaluation of Various Liquid and Dry Starter Fertilizer Formulations for Corn on High P-testing Soils. Pennsylvania State University. Report #04-01

²Evaluation of Various Liquid and Dry Starter Fertilizer formulations for Corn on High P-testing Soils. Pennsylvania State University. Report #01-03.

³Comparisons of Liquid in-row Pop-Up Starter Fertilizers and Various Dry Blends Placed at 2x2 on High P Testing Soils. Pennsylvania State University. Report #03-01.

Liquid Plant Food

Starter Fertilizer for Narrow-Row Corn

More growers are trying narrow-row corn. Advantages include yield increases and earlier ground shading for improved weed control and less moisture evaporation. A more equal distance seed spacing is also seen as an advantage. Questions arise on how to handle starter fertilizer applications on a crowded planter and drill toolbars.

Nutra-Flo PureGrade line of low salt, non-corrosive fertilizers are manufactured specifically for safe seed slot placement on corn and many other crops. This eliminates the need for expensive additional toolbars and starter fertilizer coulters. PureGrade fertilizers can easily be applied through available tube holders and micro-tubes directly into the seed slot on either planters or drills.

Typically, narrow row corn is grown in 15, 20 and 22-inch row spacing. In the past, growers have used fertilizer coulters to place starter fertilizer in a band 2-3 inches away from the seed furrows. This becomes more difficult and expensive as more and more row units are attached to the planter toolbar. Additionally, growers and equipment manufacturers complain that conventional agricultural starter fertilizers cause excessive corrosion to expensive equipment.

Nutra-Flo's GoldStart fertilizers solve the problems of application to narrow row corn. PureGrade fertilizers have a low salt index so they can be safely applied in the seed furrow without worry of germination or seedling damage. This eliminates the need for fertilizer openers for starter fertilizer placement. And, many growers appreciate the non-corrosive characteristics of PureGrade fertilizers. This saves money by not having to make labor-intensive replacement of expensive planter parts due to fertilizer corrosion.

PureGrade, when placed into the seed furrow, has been proven in test after test that it can exceed the results obtained from conventional fertilizers and placements. When placed into the seed furrow the available 100% soluble nutrients are ready for uptake into the young root system for immediate use by the plant.

Questions arise on how much starter fertilizer to apply in narrow row corn. The purpose for narrow row corn is to produce higher yields. Higher yields demand higher fertilizer rates and more intensive fertility management. Usually, growers will use the same plant populations as they did in 30-inch rows while others may slightly increase the seeding rate. The goal is to get the yield increases from more equal distant plant spacing. Refer to Table 1 for application ranges according to row spacing.



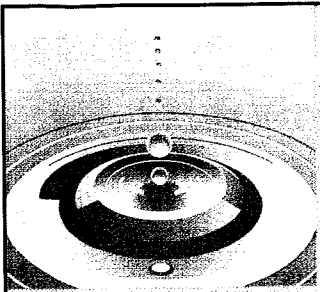
We suggest increasing the rate of application of starter fertilizer as the rows are narrowed. If a typical PureGrade rate of application in 30-inch row corn is 5 gallon/acre of 6-24-6 or 9-18-9, for example, then use 6 gal/a in 20-inch row corn and 7 gallon/acre in 15-inch rows as a general recommendation.

Let Nutra-Flo show you how its PureGrade fertilizers can benefit you and your growers and ease the transition into narrow row corn.

Analysis	30-inch rows		20 & 22-inch rows		15-inch rows	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
3-18-18	3	6	4.5	9	6	12
5-15-15	3	6	4.5	9	6	12
6-24-6	3	6	4.5	9	6	12
6-30-10	3	6	4.5	9	6	12
9-18-9	3	5	4.5	8	6	10

Minimum rates are determined by the practical limitations of application equipment. Lower rates are possible, but restrictors will be needed to insure a steady flow of fertilizer into the seed furrow. Maximum rates are those judged to be safe in non-sandy soils based on the relative salt indexes of the products. Application recommendations should be determined according to soil test results, yield goals and soil properties such as organic matter and cation exchange capacity.

*PureGrade includes both the GoldStart and Diamond fertilizers.



Nutra-Flo®
PureGrade™
Liquid Plant Food

Fertilizer Adviser

Maximizing return on you fertilizer dollar! ADVIZER NUMBER: THREE

Starter Fertilizer Essential for Best No-Till Crop Yields

By Dennis Zabel

No-till farming methods have spread rapidly in many areas of the country. In some areas no-till is the now the 'conventional' way to farm. It saves fuel, labor, soil, water and provides a friendly environment for earthworms and symbiotic mycorrhiza. In addition, no-till improves soil nutrient cycling and helps the soil become a carbon sink to reduce polluting greenhouse gas releases from the soil.

Maintaining high no-till crop yields demands making management changes when compared to tillage systems. Many experts recommend that starter fertilizer be part of the fertility program for best no-till results.

We mentioned some of the many advantages of no-till above, but there are disadvantages that directly impact fertility management that must be overcome. The two most important are:

- **Cooler soil temperatures** under the crop residue. No-till soils tend to be wetter in the spring, an advantage in dryland farming, but it slows soil warm up. Roots grow more slowly in cold soils and this reduces exploration for nutrients like phosphorus.
- **Proper positioning** of phosphorus and other nutrients for efficient crop use since we aren't using tillage to distribute fertilizer in the root zone.

Phosphorus doesn't move much from where it is placed. However, that can be an advantage when banding P in-furrow. Young roots will be growing into an area that has a high concentration of P. GoldStart 6-24-6 is made for banding into or close to the seed furrow.

Since P doesn't move, we like to see a portion (10-15 lbs P₂O₅) of the total application placed in-furrow where the first roots can gain access. Additional P needs can be applied in a deeper band or broadcasted. Banding is the

University testing shows only a few pounds of phosphorus placed in the seed furrow can give excellent results.



preferred method of P application to reduce soil fixation and increase P concentration in the root area. Roots can take up surface applied broadcast P later in the growing season when the surface soil is moist.

Banding phosphorus in the seed furrow, or very near to it, is a better way for corn, grain sorghum, wheat and other crops to access nutrients in both no-till and tillage farming. In a no-till, fertilizer placement study at Kansas State University, the results were clear. Only a few pounds of phosphorus placed in the seed furrow gave excellent results.

The seed placed P was quickly absorbed into the root system because it was in the right place at the right time.

(Continued on page two)

GOLD
Start

9-18-9

6-24-6

5-15-15

3-18-18

10-10-10

Starter Fertilizer Essential for Best No-Till Crop Yields *(continued from page one)*

In the experiment in Table 1 only 8 pounds/acre of P_2O_5 was applied. This requires only 3 gallons per acre of GoldStart 6-24-6, for example, to be placed in-furrow. Most growers are applying 4-6 gallons per acre because soils vary across the field.

GoldStart 6-24-6 is easy to use and has a lower viscosity than many other liquid fertilizers. It pumps easily and accurately at lower temperatures during the spring planting rush.

Available planter kits for application of liquid fertilizer make it easy to apply GoldStart 6-24-6 in-furrow.

GoldStart 6-24-6 and no-till farming make an excellent marriage. Each complements the other. For quick uptake of nutrients as soon as the roots begin growing, band GoldStart 6-24-6 in or close to the seed furrow.

P Placement	Lbs/a P_2O_5	Yield bu/z
In seed furrow	8**	134
No P treatment	0	116

*Kansas State University.
**8 lbs/a of P_2O_5 requires only 3 gals/a of GoldStart 6-24-6

GoldStart fertilizers offer these advantages:

- Crops grow faster.
- More uniform flowering.
- Earlier maturity.
- Virtually non-corrosive.
- Low viscosity to pump easier during cold temperatures.
- Easy to apply in-furrow.
- Excellent storability.
- Every drop has the same analysis for uniform plant response.
- High yields.
- More profit.

GoldStart® vs. 10-34-0

Here are some advantages of using GoldStart Liquid Starter over 10-34-0

GoldStart Liquid Fertilizer

GoldStart is 80% orthophosphate, 20% polyphosphate. Orthophosphate is the form of phosphate that plants can absorb into the roots. Fertilizers with high amounts of orthophosphate are recommended when immediate availability to plants is desired such as for seed furrow placement and foliar application.



GoldStart fertilizer includes NP & K.

The potassium used in GoldStart is low salt potassium hydroxide. It is becoming more widely accepted that starter and foliar fertilizers should contain potassium as well as N & P. Extremely dry or wet soils can cause a temporary potassium deficiency in young plants regardless of nutrient levels in the soil.



GoldStart fertilizers have lower salt indexes.

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(Number in parentheses is salt index per unit of plant nutrient.)



GoldStart is recommended for in-furrow placement.

Because GoldStart has a lower salt index, it is recommended for seed-furrow placement on many crops for faster uptake of nutrients by the young root system. Crops get off to a faster start. Fertilizers with low salt indexes are safer for foliar application.



10-34-0

10-34-0 is 30% orthophosphate, 70% polyphosphate. The poly form of phosphate will convert to ortho with time and warm temperatures. Since time is needed for poly conversion these fertilizers are best used where immediate availability to the crop is not necessary.

10-34-0 does not contain potassium.

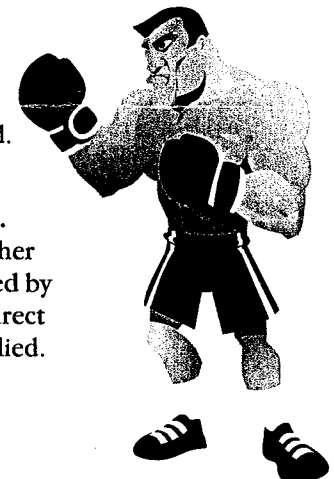
While potassium can be added it requires extra labor and mixing equipment. The resulting mix may rapidly settle out and cause plugging problems if not immediately applied.

10-34-0 has a higher salt index of 20.0 (0.45).

Sensitive crops have a higher potential of being damaged by 10-34-0 when placed in direct seed contact or foliar applied.

10-34-0 is usually not recommended for in-furrow placement.

When starter fertilizer is placed further from the seed furrow higher amounts of fertilizer are needed because of lower efficiency.



Maximizing return on you fertilizer dollar! ADVIZER NUMBER: SIX

Starter Fertilizer: An Option for Corn Growers in Tough Times?

Payback potential mounts as traditional practice yields to a more strategic approach.

Use of starter fertilizers remains a solid, sensible option. Even growers who already use starters can increase yields further with a few simple changes to their usual routine. Starters increase corn plants' ability to handle stress, improving the odds of high pollination during the reproductive stage and helping ensure fuller, bigger kernels and maximum tip fill by dry-down time and harvest.

Can starters offer potential fall cost savings, too?

When grain moisture's in the mid- to high-20s, studies show that "starter" corn is one percent to two percent drier - which can save a bundle in drying time and costs. And if, as some growers told us, moisture "went from 26 percent to 19 percent in a week" ...did starters speed the process? Probably yes.

In short, starters have consistently boosted returns across multiple years, soil types, tillage systems and planting dates throughout the Midwest and elsewhere, including when soils tested high in P and K levels.

Clearer insights emerge from starter's track record

The use of starter fertilizers in corn, of course, is not new. In a 10-state area from Ohio to Nebraska, Minnesota to Missouri, the percentage of corn acreage planted with starters each year has hung close to 50 percent dropping a bit from 48 percent in 1988 to 46 percent in 1996, the latest year for which USDA-ERS figures are available.

It's also no secret that cold soils and shorter growing seasons have been prime factors influencing

starters use - and driving the relatively high acreage percentages in states such as Wisconsin (92%) and Michigan (89%).

Up to 42 more bushels per acre

Starter fertilizers have consistently boosted yields in comparative studies in Iowa, Indiana, Wisconsin and elsewhere with different hybrids, under a variety of conditions and in no-till to conventional tillage operations.

In Wisconsin, in over three tests at 100 on-farm sites, increases up to 42 bushels/acre (bu/A) were noted, while yield boosts averaging several bu/A statewide were recorded. The probability of a profitable starter program also increased significantly with later planting dates, linked with the relative maturity of hybrids.

In a four-year Minnesota study, starter fertilizer produced the same beneficial responses (8 bu/A average) for corn after corn, and corn after soybean, plantings under a variety of tillage systems: no-till, zone till, strip till, and conventional tillage (Vetch and Randall, 2002*), according to a 2008 crop management article by the International Plant Nutrition Institute (IPNI). The need for starter fertilizer for corn, regardless of rotation, may arise from the rapid influx of nutrients by corn roots early in the season and the positive effect of N and P on root proliferation.

In Illinois, where starters have enjoyed less popularity than in surrounding states, results from tests sponsored by the University of Illinois have growers taking renewed notice. They've shown yield increases on almost all no-till farm sites (up to 17.7 bu/A).



Written by
Kim Polizotto, Ph. D.
Senior Agronomist,
Potash Corp/PCS Sales

**In short,
starters have
consistently
boosted returns
across
multiple years,
soil types,
tillage systems
& planting dates
throughout
the Midwest
and elsewhere,
including when
soils tested
high in
P and K levels.**



Dual payback: turning a "minus" into a big-time "plus"

In past years, results documented in Wisconsin provided eye-opening insights. Across all years, tillage systems and planting dates, corn yields with starter fertilizers averaged 158.0 bu/A vs 148.1 without - an increase of 9.9 bu/A. The news gets better.

Grain moisture at harvest in the higher yielding "starter corn" was 23.5 percent - a full percentage point lower than the non-starter corn at 24.5 percent. Result: drying cost savings as well.

Whether increasing yield or reducing cost, the benefits of starter fertilizer don't happen by accident.

For example, starters can help add bushels in several ways. Beginning with the seed you choose.

When employing new, genetically improved, high yielding varieties and hybrids, it is very important not to overlook the importance of high soil fertility. To get the maximum potential from new corn hybrids, it is important to get them off to a good start, and starter fertilizer programs will help.

These new hybrids and varieties tend to have larger root systems due to resistance to certain insects and herbicides. They often tend to shrug off drought and other environmental stresses better than older hybrids/ varieties and have less year-to-year yield variation.

Good soil fertility is necessary to take full advantage of the improved genetics available to farmers today and balanced NPK fertility efficiently uses all soil nutrients to grow high yields.

Improving your payback odds, from Day One

Although spur-of-the-moment decisions to use starter fertilizers may work, a bit of sit-down planning can help you make the most of data at hand and improve your chances for success.

For example: up-to-date soil samples help point the way toward ideal NPK starter blends, as well as a cost-effective total crop nutrients program.

While results with starters are likely to be greater when soil-test P and K are low, studies have shown that they also can pay when P and K test levels are considered high.

Starter application: effective, efficient and environmentally friendly

The most common, recommended and all-at-once labor-efficient starter application method - 2x2 banding at planting - places the fertilizer 2 inches alongside and 2 inches below the seed. A good alternative to 2x2 banding is "pop up." This close-to-the-seed application method positions the starter for fast, maximum impact when seeds germinate. Be sure to work with your dealer on proper application rates of "pop up" fertilizer as the chances for seedling injury are higher when applied directly on the seed. With today's bigger planters, "pop up" applications seem to be the trend among growers and are better than not using starter at all.

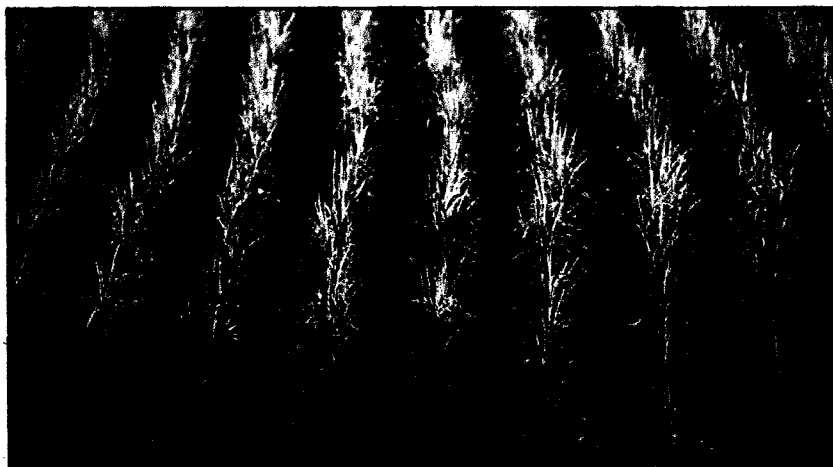
Other starter benefits

- **Zero-to-five:** Stimulated early growth means a quicker two- to three-week trip from emergence to the five-leaf stage for corn. Even more importantly, your corn gets enough vital phosphorus for fuller ears with more kernels on every plant. "Vital" phosphorus? You bet. Because now, at the five-leaf stage, your corn must have at least 0.5 percent of phosphorus in the plant tissue in order to deliver its bred-in hybrid best. If it doesn't, your ears will likely initiate fewer kernels. It's that simple.

- **Weather or not:** What's more, the worse the weather gets, the more your starter functions as a stress management tool ... boosting plants' ability to shrug off inclemency and grow to maturity with less yield loss.

- **Reproductive stage:** Starter fertilizers help shorten the trip to silking, too, so that your crop arrives when temperatures and humidity are more likely to be "summertime cool" and moist-perfect for pollination. Hotter, drier weather later on reduces "stick," leading to more aborted pollination attempts - and fewer kernels. In short: here, too, the right starter fertilizer helps your hybrid give birth to every kernel bred-in.

Good soil fertility is necessary to take full advantage of the improved genetics available to farmers today and balanced NPK fertility efficiently uses all soil nutrients to grow high yields.



- **Grain fill period:** Starters also help corn make the most of warm days and cool nights so that kernels grow bigger and fuller. Every kernel. Every ear and stalk. Every row.

- **Tip fill:** Stalks can grow truly full ears, with fewer nubs and heftier kernels all the way to the top end. Ensuring delivery of the plant nutrients that help make this happen begins with starters, too.

If you wind up with 14 more kernels per ear, what's the difference? Well, how many ears and stalks per acre in your fields? How many acres: 100? 500? 1000? It's simple math. Better yet, it's addition ... to yield, to income.

That's how little things like these with starter fertilizers help you stack the odds for a greater payback on your side.

*Sources: Vetch, J.A. and G.W. Randall. 2002. Corn production as affected by tillage system and starter fertilizer. Agron. J. 94:532-540.



9-18-9

6-24-6

5-15-15

3-18-18

10-10-10

