

Ag Leader®

# INSIGHTS

PRECISION FARMING MAGAZINE



A LOOK AT  
PRECISION FARM  
DATA. THEN.  
NOW. NEXT.

# We've Come a Long Way in 25 Short Years

*Al Myers*

Al Myers



It's pretty easy to forget exactly what farming was like 25 years ago. But if you page through issues of some of the farm magazines back in 1992 – the year Ag Leader got started – it's amazing how much has changed. It's also interesting how some things are still very similar.

In 1992, the U.S. was in an election year. The farm economy was tough. Farmers were seeing their second or third straight year of decreased farm income. They were irritated with the government, animal rights activists, \$2.25 corn and El Niño. Trade concerns centered around the impact of something called NAFTA (North American Free Trade Agreement) and how it would affect already low commodity prices.

Herbicides and pesticides were all the rage (and almost all of the advertising). In one magazine, there was even an article about a product called the Beetle Eater™ which was designed to suck bugs from growing plants. It was basically a crop vacuum. Herbicide resistant weeds were becoming a hot topic, as was herbicide resistant seed technology. Custom application rates ranged between \$3.50 and \$5.50 per acre.

The Massey Ferguson 3690 170 hp tractor made its debut, as did John Deere 60 Series and 6000/7000 Series tractors, Case IH Maxxum® 5200 Series tractors and the Deere “Maximizer” combine. One article asked “Can you really afford to own a combine?” and scoffed at the cost of newer models eclipsing \$100,000.

Tillage practices were also hot topics. Ridge-Till. Mulch-Till. No-Till. Farmers were reading articles about new techniques in soil testing and how the information would allow them to reduce their fertilizer costs.

And of special interest to me, an article on personal computers compared IBM compatible machines to the Macintosh®. The IBMs had more farm software available, but Macs had a mouse. A quality HP® Vectra QS computer cost \$3349 and included a whopping 2 MB of RAM and an 84 MB hard disc. Today, you could find that much computing power in the most basic of electronic devices.

On the surface, it seems amazing that in an environment like that, precision farming was born. Farmers weren't looking for new things to buy. They were looking for ways to cut back. Reduce costs. Keep their bankers off their backs. But it was in that environment that Ag Leader was born and that first year we sold exactly ten yield monitors.

Think about that. Today, equipment is bigger and more expensive. Seed technology has replaced a lot of the chemicals. And, a yield monitor is pretty much a given. Everybody has one. Computers, phones, even equipment are all connected wirelessly (and have much more than 84 MB). The ability to plant and apply products based on field maps at variable rates is relatively common. And the data farmers have access to today has helped boost yields and reduce costs. Even how we see precision data has changed dramatically in just the past 25 years - from a monochrome screen of digits to a full-color, touch screen with intuitive charts and maps.

While Ag Leader has already amassed a considerable legacy and reputation within the industry over the last 25 years — we're looking forward to the next 25. We foresee even more interconnectivity, more ways to gather and analyze useful data and more innovation from our team to keep our brand at the forefront of the technology needed to do that. ■



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THE NUMBERS  
DON'T LIE



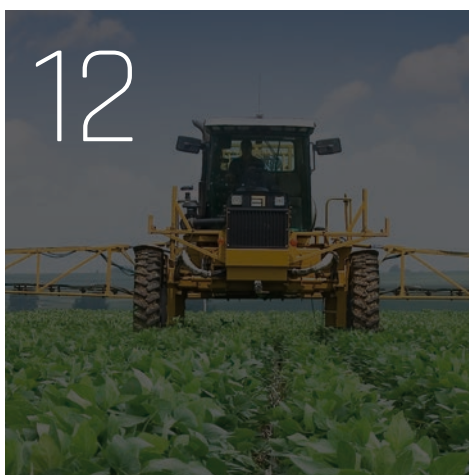
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APPLICATION

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# THE NUMBERS DON'T LIE

**T**echnology in agriculture is a tough topic to stay up to date on. With companies entering and exiting the marketplace at a dizzying pace, growers are stuck deciding what is a sound purchasing decision.

The numbers — they don't lie. And there are a lot of numbers pointing to planter technology as a worthwhile investment.

→ **60+**  
bu/ac

That's what overplanting on turns could cost you. Anyone with curved or terraced fields knows it's hard to get uniform population on all rows around a turn. Typically, the inside of the curve has too many seeds, while the outside of the turn has too little. Turn compensation keeps you from overplanting on inside rows and under-planting on outside rows by controlling the rate the seeds are released across the planter.




15  
bu/ac

This is what you can gain by planting at a uniform seed depth. Soil types and conditions change throughout a field, but your seed depth shouldn't. Maintaining enough pressure to keep seeds at a uniform depth helps ensure proper seed to soil contact giving the seed a good start and even emergence across the field, decreasing plants' competition for nutrients and sunlight.



7  
bu/ac

This is the amount of yield potential gained by having uniform seed spacing. You know what can cause inconsistent seed spacing? Planter issues that may go undetected until plants emerge, or even until harvest rolls around. Catching the planter issue right away can save your bushels — if only you could view all planter activity in real-time.



Ag Leader's SeedCommand product line offers a solution for every planting problem that may arise. SureDrive electric drives provide singulation, variable rate planting technology, turn compensation and row-by-row shut off, all in a neat, maintenance-free drive. Hydraulic down force gives you immediate response to changes in soil types and conditions, providing unbelievably uniform plant emergence. Finally, the industry-leading InCommand 1200 display gives growers a window into the planter, so costly errors can be quickly identified before yield is lost.

But that's not it. There's one more number that tells a story of dependability.



25

That's how many years Ag Leader has been in the business of helping farmers improve efficiency and accuracy. In the precision farming industry, that means we've been here since the beginning, have stood the test of time, and will be here until the end.

The numbers don't lie. ■

Sources:

<http://www.southeastfarmpress.com/equipment/planter-clinic-part-2-tuning-your-planter-maximize-yield-and-profit>  
<https://www.agweb.com/mobile/article/how-to-advance-technology-on-your-farm-naa-ben-potter/>



# WHAT'S IN YOUR DATA?

**T**he benefits of assisted steering technology are pretty clear — namely increased accuracy and reduced operator fatigue. And yet, when it comes time to make the investment, some growers still question whether the benefits truly outweigh the initial cost? Well, Andre Farms LLC in Wauseon, Ohio, says the proof is in their data.

Brothers Nate and Paul Andre farm 1,100 acres specifically dedicated to corn and soybeans with the help of Nate's son Ross. The Andre men worked with Ag Leader dealer, Bill Copeland, to search through their precision ag data to discover the areas they needed to improve upon to become more successful and profitable. One of their biggest problems was their singulation rates.

"Part of our singulation problem was that every time we put a marker down with the planter it took hydraulic fluid from the drive so we had really bad singulation at the beginning and end of every row," Nate said.

Because the Andre family already had variable rate seed drive and row shut off capabilities on their planter but no auto-steer, Copeland suggested the purchase of the OnTrac3 auto-steer system in the spring of 2016.

"Bill had kind of pushed that we should look to change a couple of things," Ross said. "We were kind of behind the trend as far as having auto-steer. Most people had already transferred to that system, so we decided to spend the money and go that way."

The results from the first year showed noticeable changes to both Nate and Ross as their singulation increased 1.11 percent over their four-year average and 2.92 percent over the previous year.

The Andre's were also able to cover more ground in a day — planting their corn and soybeans one day quicker than their five-year average and three days quicker than the prior year.

When it came time to harvest, the OnTrac3's ability to create straighter and

more accurate rows and guess rows, meant more corn and soybeans were going into the hopper and less on the ground.

"We're now getting more accurate yield data on the grain table because of our consistent header width operation," Nate said.

Their corn and soybean yield average was 28.2 and 15.6 bushels better than 2015's harvest and 30.4 and 17.1 bushels better than their eight-year average. This resulted in an estimated increased profit margin of \$143,017 over their eight-year average.

"I think once you try (Ag Leader) and you start looking at the numbers, and you'll notice the stresses you don't have to worry about — it takes a lot off your plate," Ross said. "(The technology) helps without even looking at the data but then when you actually do look at the numbers it's quite a bit of financial incentive to switch." ■



"We're now getting more accurate yield data on the grain table because of our consistent header width operation."

**30 bu/acre**

INCREASE IN CORN OVER  
AN EIGHT-YEAR AVERAGE

VIEW MORE PHOTOS FROM THIS STORY

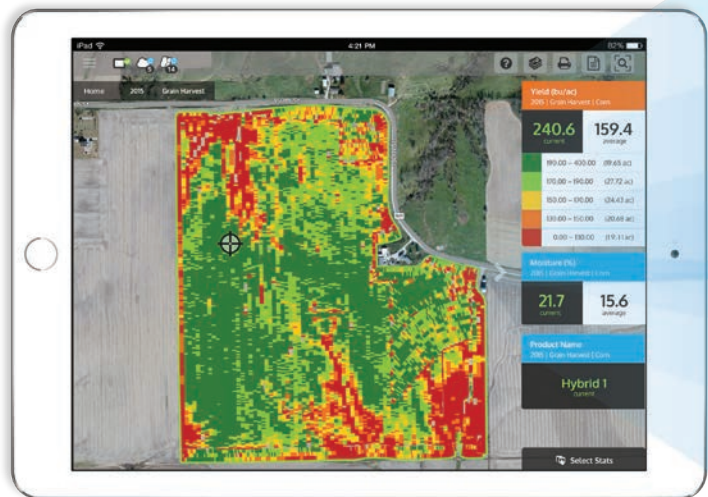


Source: <https://www.youtube.com/watch?v=c5ND1sASP9M&t=15s>

# Is **AgFiniti**® FOR YOU?

You've seen the Ag Leader slogan, "So simple Dad can teach you," and maybe you paused to question if it was really that simple. You aren't alone, the word 'data' is loaded with possible definitions and paths, and may cause more questions and concerns than answers. You may be wondering: Is this product for me?

Yes, **AgFiniti**  
is *that* simple.



**AgFiniti**®  
Mobile

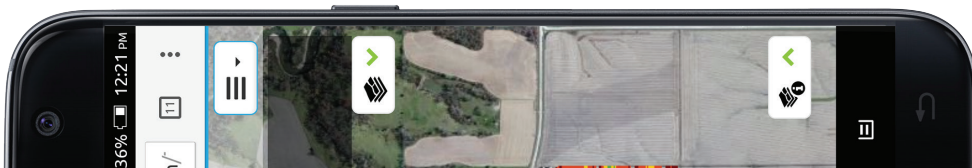
## An Essential Part of Your Operation

No matter what size your operation, or your experience level with technology, the value and insights within your data can provide big dividends and potentially mean the difference between having a sustainable business in today's farm economy, and just getting by.

But what's the learning curve and at what price? The great news for those just getting started — there's an app for that, and it's free. AgFiniti offers data management tools for all skill levels; from free, basic map viewing to subscription-based analysis tools.

## How Easy Is It?

- Maps and reports instantly appear on your iPad®.
- Send information to those you trust (landlords, partners, trusted advisors, etc.).
- No need to learn desktop software or process data.
- No internet or cell connection required.
- It's FREE.





## PERHAPS YOU RELATE TO ONE OF THESE COMMON SCENARIOS:

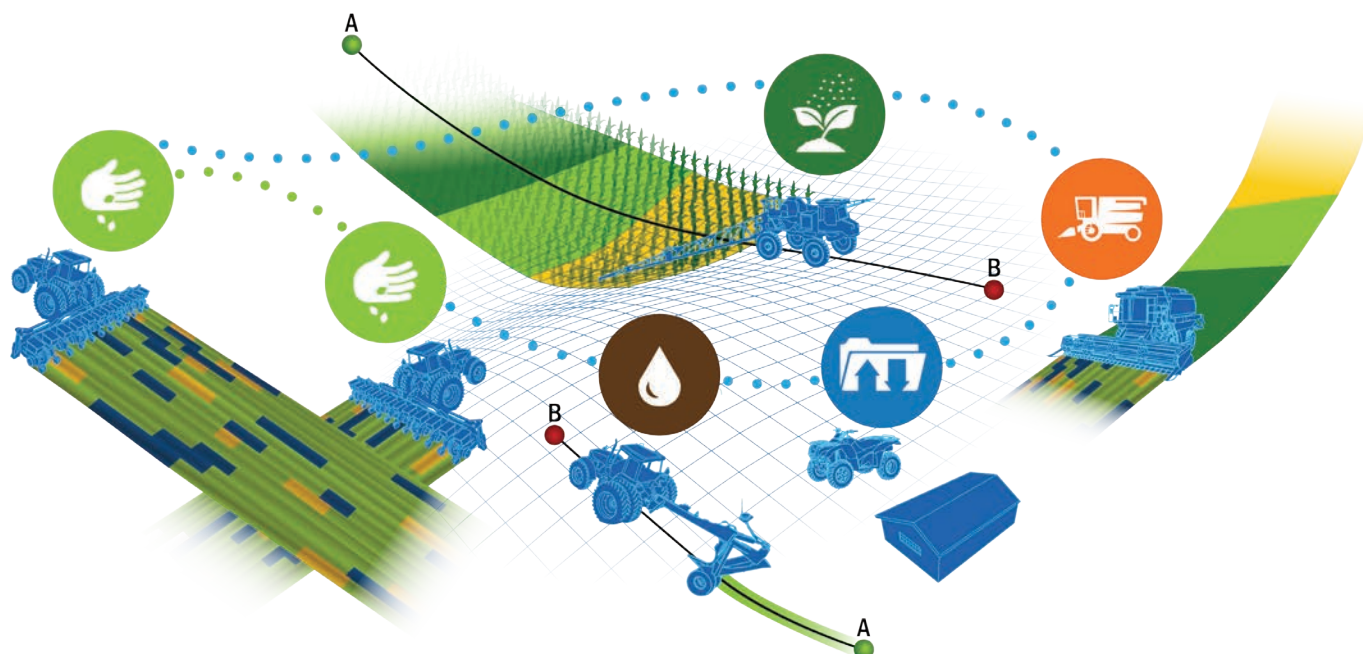
### I want to view and print my yield maps.

Using the InCommand display and AgFiniti Mobile app, maps are instantly available on your iPad when you leave the field. Easily view and print from anywhere, and it's not just yield maps, it's all your maps, reports and information collected with your InCommand display. Simply sync your InCommand with your iPad and maps are available immediately to take with you from the field.



### My consultant creates maps and prescriptions for me.

AgFiniti makes working with your trusted advisors even more convenient. Easily share your information by emailing your field maps right from the app! Eliminate unnecessary downtime waiting for a prescription, by establishing a sharing relationship with your trusted advisors. By setting up this relationship, you have access to any files your trusted advisors create for you. Plus, you can wirelessly upload this information right to your InCommand display!



### We run multiple Ag Leader InCommand displays.

AgFiniti connects your entire operation — all displays and iPads are updated with the latest maps, reports and field information so everyone is in sync; anytime and anywhere.

### I have a mixed fleet with multiple brands of displays.

Are you using a mixed batch of Ag Leader displays? Maybe you have a few third-party displays as well? Leverage the power of AgFiniti by importing all of your data into our SMS desktop software. From there, it's easy to send all of your information to AgFiniti, so you can view it wherever you are, whenever you want! It doesn't matter if that data was generated from an Ag Leader®, John Deere®, Case®, Trimble® or any other third-party display. Your information is at your fingertips.



### I'm an SMS user and would like to have my data accessible anywhere.

As an SMS user, you get free access to AgFiniti to view your maps anywhere on your mobile devices. Simply export the information you want to see on AgFiniti through the Device Setup feature of SMS. By using your SMS credentials when you login to AgFiniti.com, your maps and information will appear right in your browser! Regardless of where you're at or what device you're using, you have access to the information you need to make decisions. ■



**For more Ag Leader tutorials, visit our YouTube channel.**



# You're Invited to Our 25th Anniversary Celebration!

August 4 | Ames, Iowa

Register Attendance Online at:  
[www.AgLeader.com/AgLeaderIs25](http://www.AgLeader.com/AgLeaderIs25)

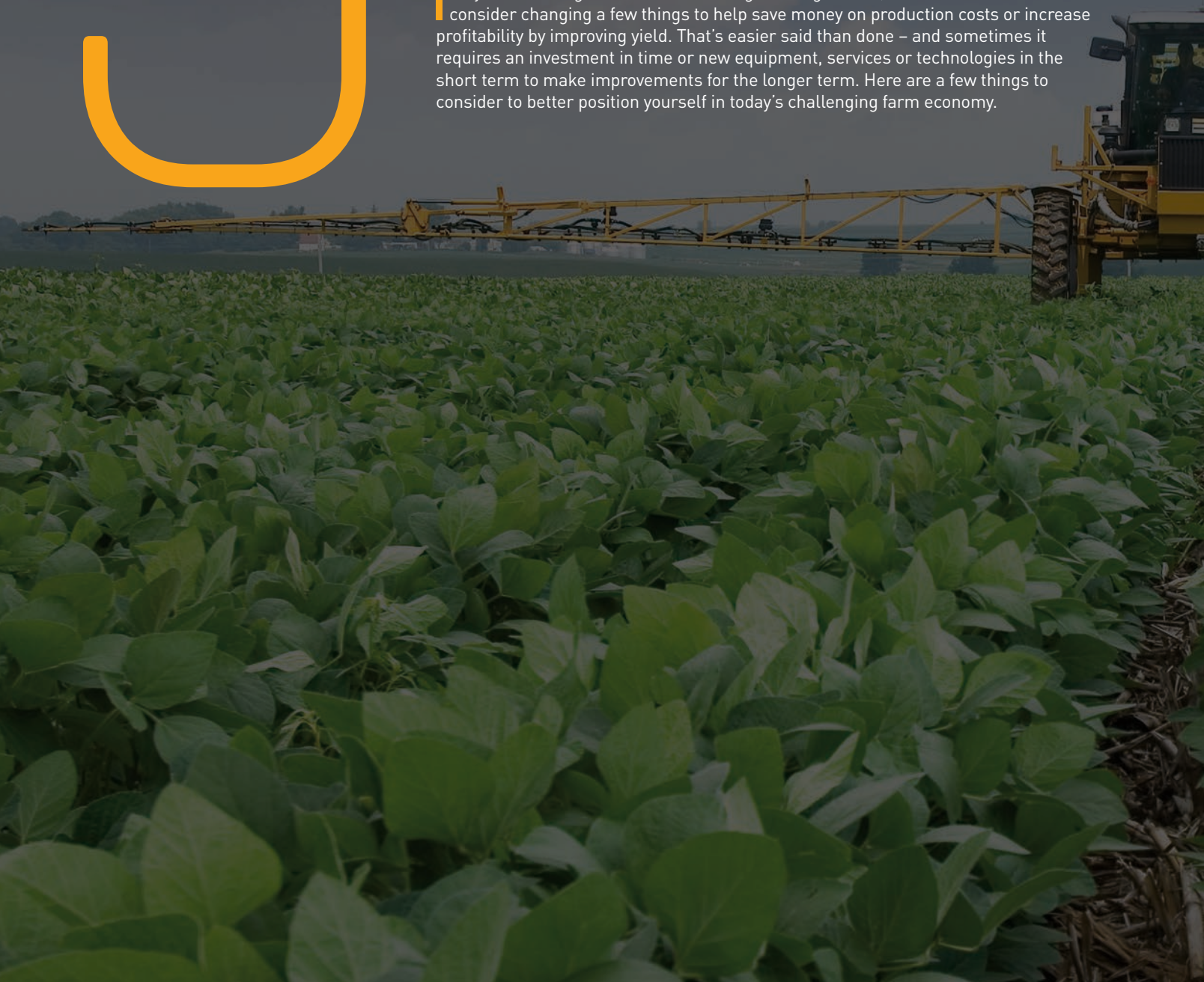
***Ag Leader***<sup>®</sup>



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## SMART MOVES IN A CHALLENGING FARM ECONOMY

It's much easier to be a successful farmer when crop prices are high than when they are hovering at the bottom. During the tough times, it makes sense to consider changing a few things to help save money on production costs or increase profitability by improving yield. That's easier said than done – and sometimes it requires an investment in time or new equipment, services or technologies in the short term to make improvements for the longer term. Here are a few things to consider to better position yourself in today's challenging farm economy.





# One

## Analyze Your Data

Taking time to analyze your data year-over-year can help you identify costly mistakes that are happening in your operation. Yield maps will help you become aware of areas in your fields that yield lower than the rest and set you down a path to correct these areas. Real-time, row-level planting maps, like those available with the InCommand 1200 display tell you if your planter is properly functioning, allowing you to correct the error before it costs you money. Then, take your maps with you for analysis wherever, whenever with AgFiniti. Check out SMS for even more in-depth analysis tools. You're probably already collecting the data, why not use it to help you make profitable management decisions?

# Two

## Do It Yourself

It might seem easier and more cost effective in the short term to hire someone to install tile in your fields. Tiling has a large return on investment by increasing soil temperature, improving soil structure and ultimately increasing yields. But doing it yourself can also pay dividends. Having your own equipment to do things yourself can also become a profit center if you can provide tiling services for some of your neighbors, as well. It requires an upfront investment, but it might be the best option from a profitability standpoint.

# Three

## Smarten Up Your Planting Strategy

If you aren't already, it's time to consider adding today's advanced planting capabilities to the planter in your shed. Variable rate planting lets you plant more seeds in high productivity soils and less in lower performing areas. Electric drives with turn compensation can improve yield by eliminating over-and-under-planting where you make turns in your field. Technology, like SeedCommand, can change your older model planter into a cutting-edge, highly-efficient machine. Ag Leader offers a color-blind solution for nearly every planter brand in the market.

# Four

## Find a Tech-Savvy Agronomist

With today's mapping and data capabilities coupled with variable rate and other precision technologies, it pays to work with an agronomist who not only understands soil types, seed options and fertilizer recommendations, but one who can apply available technologies. Today, it's not just about identifying the right inputs. It's about planting, spreading or applying them in the right amounts in the right areas to maximize yield. Then, it's about collecting the data and identifying opportunities to improve things even more next year. Having the ability to share your data through AgFiniti simplifies this process even more, allowing you to make smart, profit-maximizing decisions.

# Five

## Convert to Variable Rate Application

If you're still blanket spreading fertilizer, stop! Soil testing and variable rate technologies can turn applying fertilizer and other inputs into a science. No more wasting fertilizers in areas that aren't worth the investment. And, with crop sensing equipment like OptRx and application control capabilities of DirectCommand, it's simply a matter of generating the right prescriptions from your maps using software like SMS and letting your new InCommand display do the thinking.

Sources:  
<https://www.extension.iastate.edu/agdm/crops/html/a2-35.html>  
<https://www.extension.iastate.edu/agdm/crops/html/a3-33.html>



# SUPERIOR GRANULAR APPLICATION



Ag Leader and New Leader team up to bring swath width control and more with the new G5

**W**hen two leading companies team up to introduce a new product, it's sure to be revolutionary. That's just what Ag Leader and New Leader, a division of Highway Equipment Co., did with the new NL5000 G5 Crop Nutrient Applicator.

"Leveraging both our strengths, and a long-standing relationship, we've developed the most precise and user-friendly spinner spreader system on the market. It will truly revolutionize dry nutrient application and supports our mutual goal of environmental sustainability and four R's of nutrient stewardship," said John Howard, Ag Leader Product Manager.

## Right Source.

A variety of products on the market have changed application practices and trends. Products such as stabilized nitrogen, stabilized phosphorus, products engineered to incorporate a total blend into a single granule, as well as products with increased granule

size and improved granule structural integrity. The hardware and electronics of the G5 system were designed to maximize the benefits of these new technologies.

## Right Time.

Crop growth depends on available nutrients from the soil. Timing of nutrient application is a key risk factor. Instead of broadcasting all nutrient needs in the fall or spring, with the new enhanced nutrient products, growers are broadcasting a percentage of crop nutrients in the fall, and applying pre-plant application again in the spring. High-clearance row crop applicators outfitted with the G5 system allow growers to access the field during early crop growth and apply a maintenance application. This makes nutrients available when crops need them most.

## Right Place.

Precise placement of nutrients is paramount. A key innovation of the NL5000 G5 system is the

16-section swath width control functionality.

The patented G5 technology sets itself apart from other machines in the North American market by its ability to dynamically and simultaneously adjust the spinner assembly position left/right, fore/aft providing the operator with a highly responsive and reliable method to apply the right amount of nutrients in the right place.

Other precision-driven features include: boundary spreading, half-width spreading and an extremely precise independent spinner speed control. Add to that full variable rate capability, and the system has full control of nutrient placement.

## Right Rate.

The G5 comes equipped with the superior rate control performance customers rely on and expect from Ag Leader. The system features a simple Swath Profile Calibration routine, for fine tuning spread

pattern at minimum and maximum flow rates based on product characteristics. The Feed Gate Optimizer calculates optimum feed gate settings and automatically adjusts gates without having to leave the cab.

"Seeing the G5 system perform with such high accuracy during testing and field trials was a rewarding experience," said Jeremy Rothfus, Lead Software Engineer for Ag Leader. "In one of the tests the spreader was driven diagonally across a boundary to simulate spreading into and out of coverage. Within the test area pans were evenly distributed in a grid to catch the applied product. The pans were emptied into test tubes to measure the mass of material and to chart the distribution of the material. It was amazing to see how accurately the system could apply the material in the right place and maintain the right rate in those places as the spreader drove diagonally through the boundary."



## SWATH CONTROL FIELD VERIFICATION

To accurately apply product in the right place, the fan frame has to be moved with accuracy and speed. An 80 foot spread width with 16 sections means each section is 5 feet wide. The fan frame must be moved to left/right and fore/aft positions measured in millimeters to accurately control the placement of the product in that 5 foot section. Achieving that level of control and repeatability at a high speed was a significant engineering challenge.



Don Samuelson (Right) and Nathan Marks (Center), New Leader Design Engineers verifying swath pattern.





# SO SIMPLE EVEN DAD CAN TEACH YOU

