



Ag Leader®

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Connect your entire farm operation.



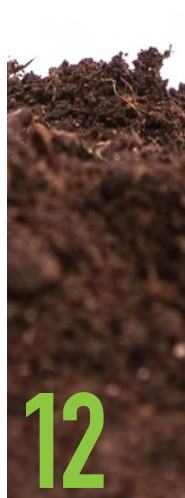
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Keeping Up with Technology

Farmers have made substantial progress since the advent of the yield monitor 26 years ago. With the combination of precision farming tools and data management technologies, it's now estimated that the average farm collects more than 190,000 data points per day, and that number continues to rise.

What were the driving factors for this change? First, farmers have been looking for ways to improve their operations using electronic and information technology. By adopting ag tech, such as our InCommand displays, numerous input application controls and AgFiniti data management platform, they're finding new avenues to increase productivity and create new efficiencies.

Next, our Ag Leader engineers have invested time and energy to advance our products, making precision farming tools easier and more intuitive. We have listened to farmers' concerns about keeping their data secure and accounted for their feedback in every innovation released to the marketplace over the last 26 years.

And finally, we've come together as an ag community - connecting through blogs and social media. Farm families learn by sharing their success stories with each other and their communities. We are committed to improving the lives of farmers who can learn from one another as they adopt new technologies and continue to evolve their operations.

I won't spoil it, but take a look at the article in this issue about Lora Howell (page 8), the winner of our Tech My Farm contest. Precision farming wasn't a new concept to her by any means. But there was a level of comfort in having an expert analyze her operation uniquely and recommend the next precision tools to improve productivity on her specific operation. She's eager to share her story about how this change is paying dividends for her farm today.

I believe we've only scratched the surface when it comes to precision farming tools and data management technologies. The evolution of ag tech is not slowing down, and it will continue to change in the direction of full-farm connectivity. Growers will continue to adopt new technologies and use their data to take the guess work out of decision making.

It's great to see early adopters try the newest innovations and share their success stories, but it's most rewarding when the majority of farmers incorporate those technologies piece by piece. When this level of change takes place, the entire agricultural community benefits. Those are the stories we like to tell.

Al Myers
AL MYERS, FOUNDER & PRESIDENT

INCOMMAND: A WINDOW INSIDE YOUR PLANTER

Every year, farmers invest in seed and trust a healthy crop will soon begin growing. With seed placement a key component of ROI, you stand to lose considerable money per acre by failing to optimally place seeds. Several factors come into play when it comes to seed population and spacing, but do you really know how your planter is performing? If the answer is no, you need a window into your planter, and the InCommand 1200 gives you just that.

Your InCommand display can seamlessly connect with AgFiniti to allow information to flow across your team. All machines, devices, tablets, phones and displays across the operation are updated with historical and real-time information including coverage maps, guidelines and prescriptions. No need for USB drives or desktop software processing - information is automatically synced with AgFiniti across all your devices. You can also set up sharing relationships with trusted advisors like your co-op manager or agronomist, or set up remote viewing access with your dealer for even more collaboration with your extended team.

SPLIT-SCREEN CAPABILITIES

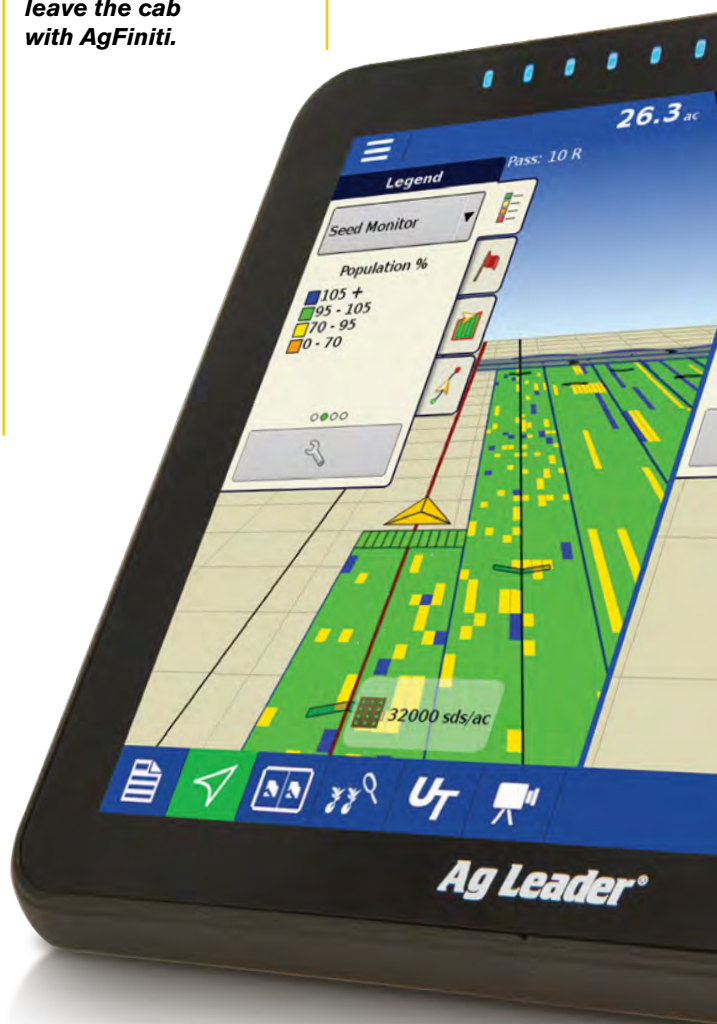
View row-by-row activity and more on a single display.

Using split screen, you can view a single row for greater resolution, and at the same time see your historical pass-to-pass data.

PERFORMANCE ISSUE ALERTS

See high-resolution and real-time maps that display skips and doubles.

Plus you'll have planting maps in hand when you leave the cab with AgFiniti.



CONNECT MULTIPLE DISPLAYS

The DisplayCast feature provides display-to-display communication whether two displays are working in one field or information is needed from another display parked in the shed.

DisplayCast allows growers to share coverage maps, guidance lines, field summary information and more.



SPRING SITUATIONS SIMPLIFIED WITH AGFINITI

*The cloud-based
platform that connects
your entire farm operation.
Anywhere. Anytime.*

SITUATION:

Dad is in the field planting while you work off the farm during the day, but you want to see what he's doing.

SOLUTION:

Use AgFiniti to look in on his progress, and make sure it's being planted correctly. With AgFiniti, you can see the planting maps, including everything from populations, singulation, down force and variety tracking maps, without having to use desktop software.

SITUATION:

You employ an InCommand 1200 in your planting tractor. You like the row-by-row mapping and integrated autosteer but wish there was a way you could share key field data and grab planting guidance lines to use in the sprayer.

SOLUTION:

AgFiniti connects all InCommand displays across your farm through all seasons. It allows you to share data like configurations, field boundaries, coverage maps and guidance lines.

SITUATION:

You want to be able to pull up any year's information from any operation while you're out scouting or talking with landlords.

SOLUTION:

Use AgFiniti on your smartphone, Android tablet, or iPad to make informed decisions using any and all of your information.

DATA MANAGEMENT. UNIFIED.

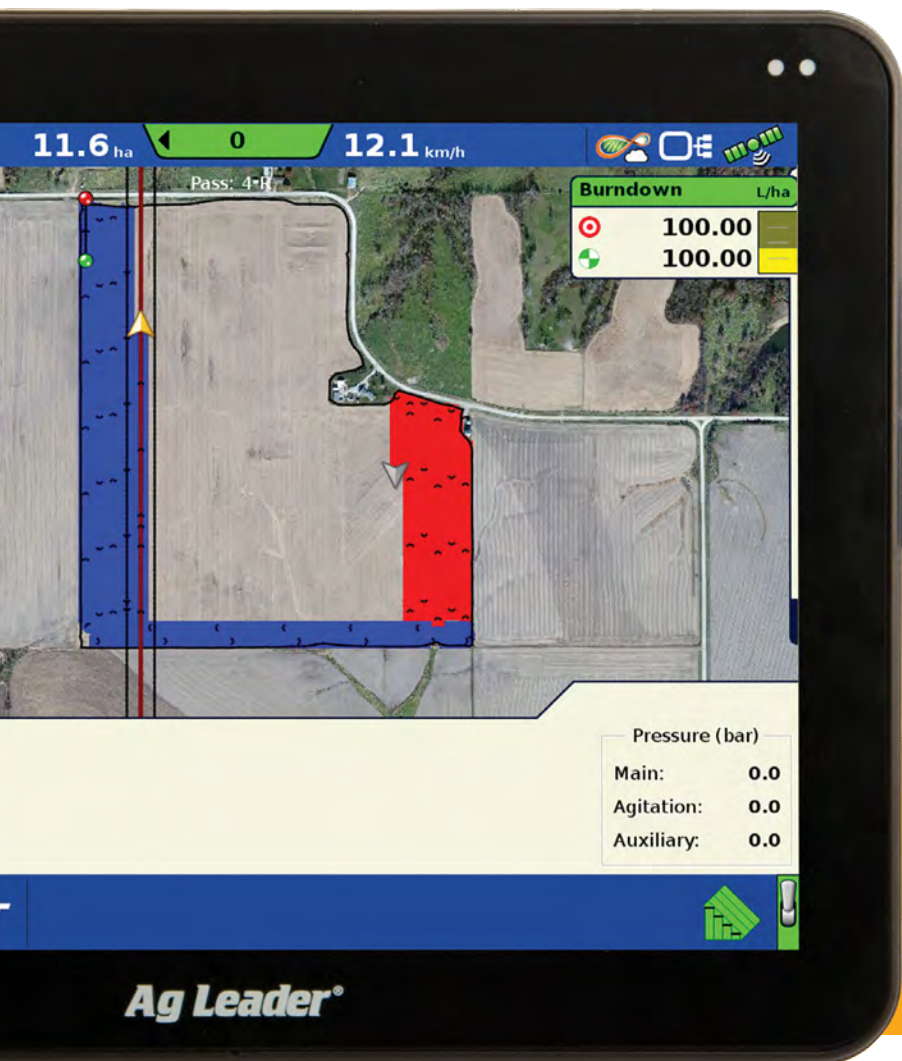
Derek Tiller has no allegiance to one specific machinery company. The challenges that strategy poses to his family's crop operation in Pinery, South Australia, are overcome by fitting Ag Leader equipment to all the farm's machinery.

Farming over 8,600 acres with co-manager and brother Clinton, under the business Pinery Grain Growers, Derek grows wheat, lentils, barley, canola, chickpeas and faba beans.

Their machinery shed is a menagerie of brands: a brand-new Claas Lexion 780 harvester on tracks; a Challenger MT865E on tracks for seeding and grain transportation duties; a Massey Ferguson 8690 for rolling, spreading and pulling the grain cart at harvest; and an Agrifac Condor Endurance self-propelled sprayer.

"We don't have any loyalty to a particular machinery brand," Derek says.

"When we are upgrading machinery, we like to pick the best machine that's available at the time which will help us to increase efficiency and maximize our expansion potential with the labor we've got."



“WE’RE ALL MAKING DECISIONS ABOUT AGRONOMY HERE, SO IT’S GOOD TO HAVE EVERYONE SEEING WHAT’S HAPPENING OUT IN THE FIELD ALL THE TIME.”

In a modern farming system where GPS is the norm and precision agriculture is becoming more and more popular, the Tillers' no-loyalty approach could present some challenges in factory monitors and GPS technology not "talking" to each other and making data collection difficult.

However, the Tillers have found a way around that problem by fitting Ag Leader equipment to all of their machinery.

Derek says the Ag Leader products "fit anything" and work well across all of their machinery.

They have used both InCommand 1200 and Ag Leader Integra Display in their machinery. The InCommand 1200 display in the sprayer is linked to OptRx sensors, also from Ag Leader, which are fitted to the boom. These sensors monitor the bulk density of crops throughout the growing season while applying herbicides, fungicides or insecticides and generate normalized difference vegetation index (NDVI) maps to help the Tillers make management decisions, particularly in regard to nitrogen.

"For example, we had an issue in 2016 with some sodic soil that was affecting our lentils," Derek says. "The soil had become slightly acidic and waterlogged and lentils don't enjoy waterlogging at all. We were seeing yellowing in the crop and were able to monitor it with the OptRx sensors throughout the year as we sprayed it and recorded maps with the sensors then correlated it at harvest with our yield maps. After harvest, we'll be able to go back and pinpoint those areas in the paddock (field) and treat them accordingly."

Derek says yield maps need to be cross-referenced against other data to ensure accuracy and the OptRx sensors have helped them do that.

"It's not an extra job. You can just switch the sensors on when you start spraying," he says. "That data can overlay your yield map and you get to understand the yield correlation with the bulk density of the crop. Not only can we identify problem areas, but also quantify and realize what part and how much of that paddock is affected by whatever the problem could be and then revisit that with more specific testing of the soils or crop."

During the 2016-2017 harvest, the Tillers also tested another AgFiniti feature, DisplayCast.

DisplayCast connects each display wirelessly so data can be shared easily between the InCommand displays without the need for carrying maps on USB drives.

For instance, while the Claas is harvesting, the yield data from the machine is uploaded into the cloud enabling the grain cart driver in the Massey Ferguson to see the same data in real time.

"That helps all the machinery operators to understand what parts of the paddock are performing well as we are going," Derek says. "We're all making decisions about agronomy here, so it's good to have everyone seeing what's happening out in the field all the time."

Derek sees data as an invaluable tool in helping to make better management decisions throughout the season.

"We are building a case file for each of our paddocks with all the data we are collecting, which is specific to different areas of the paddock," he says. "If there is an issue that comes up in the future, we can use that data we've generated to aid in our decision making. That in itself can help increase our efficiency and potentially lower our cost of production."



DEREK TILLER

PINERY GRAIN GROWERS • SOUTH AUSTRALIA

CROP VARIETY:

Wheat
Lentils
Barley
Chickpeas
Canola
Faba Beans



TECH MY FA



RIM

“SURFING A TIDAL WAVE.”

That's how Lora Howell describes the new task of integrating the high-value crop and field data she's gleaning with her new lineup of Ag Leader precision ag equipment. But, for the woman who's made agriculture her life, it's a labor of love.



It takes a lot more than new precision ag data to stop - or even slow down - this Danville, Ohio, corn and soybean farmer. Especially with the people at Ag Leader behind her at every step of the way, helping her simplify a once complicated process.

“You're talking to the wrong girl if you think I have any insecurities,” Howell says. “I'm a mom.”

She's relied on that sort of strength and tenacity to not only persevere through loss and sustain her family's farm, but improve it and increase the technology for the next generation with Ag Leader tools that she recognizes are becoming critical parts of every successful row crop farm like hers. Howell attributes her determination and dedication to her farm's future not just to how she was raised, but also to life's changes she's faced since her upbringing on a farm in central Ohio.

“Everything we have, we built on our own. We started the farm from scratch,” Howell says of her partnership with husband Dave, who she met when working at a USDA Farm Service Agency (FSA) office in eastern Ohio shortly after graduating from The Ohio State University with a degree in Animal Science. A 4-H and FFA alumna, Howell went on to have two children, daughter Linsey, 26, and son Justin, 14. “Both Dave and I were raised on farms, and ever since we were young, we both knew we wanted to raise our family on the farm.”

ADAPTING TO CHANGE

When those plans took a sudden turn just over two and half years ago, Howell, who's currently the Farm Service Agency County Executive Director in Millersburg, knew that things were going to change.

"When my husband died unexpectedly, I knew I had to farm in order to pass it on to future generations," she says. "We've been doing this our whole life and I knew I was not going to walk away from this place."

"I'm not saying we were equal partners, but we certainly farmed together. You've got to do whatever it takes to make things work," Howell says. "We are living our dream. It's a lifestyle that means there are inevitably breakdowns and poor markets, but it's the reward - the long hours, working outside and from planting to marketing - that enables us to live on the dirt that God provided."

Howell and her family (and a "great contact list" of supporters and friends) operate the farm that now comprises 250 acres of soybeans, 100 acres of corn, 100 acres of hay/forage, 50 acres of wheat, 70 feeder cattle and 30 ewes with a sharp eye on efficiency and "doing a better job with less."

Howell is quick to acknowledge that while her path has been challenging, it's one she's traversed with eye to the future, the same approach she has been using since building her family's farm decades ago.

PRECISION AG ORIGINS

Howell's original interest in precision ag wasn't because of a pursuit of the technology itself; she sought its function and output in her continued pursuit of the efficiency.

"I was taught that you have to feed the soils to raise a good crop and make the right decisions to do that. Today, that means not just using soil tests, but mapping yields and placing seeds accurately," she says. "I'm all about saving money, but I know we have to spend money on these tools to do those things effectively."

She had already used some basic precision ag technology before building her technology toolset with Ag Leader. Those tools have already proven their worth on her farm characterized by rolling hills where raising a 200-bushel corn crop is a rarity.

"We have a nice farm. It's not the biggest, but we have decent equipment," Howell says, adding she didn't think she'd win the "Tech My Farm" contest that her technology-savvy children encouraged her to enter.

It's a lifestyle...
**THAT ENABLES US TO LIVE ON
THE DIRT THAT GOD PROVIDED.**

TECHING HER FARM

That program was the contest in which nominated farmers were in the running for a \$25,000 package of Ag Leader precision ag hardware and software. Howell says after being named the program winner, the process of working with Ag Leader opened her eyes to just how much the tools could help her accomplish the efficiency outcome she has always made a priority on her farm.

With funds provided by the "Tech My Farm" program, Howell purchased an InCommand 1200 display, SureStop planter clutches, OnTrac 3 steering system and a GPS 6500 receiver system. She received the tools just before the 2017 fall harvest, so only first used them to record harvest data. That process alone was enough to show her just how much the technology will change her operation.

"It was a once-in-a-lifetime thing," Howell says. "When I saw what it could do for me, I knew it would be more than worth it."

Howell admits she hadn't taken the time to learn the full capabilities of the new tools when she began integrating them into her operation prior to 2017 fall harvest. But, her focus on the

HOWELL'S AG LEADER LINE-UP

Though she wasn't a complete precision agriculture rookie when she began working with Ag Leader technology, Lora Howell says she's experienced easier operation in the field and better integration of precision data into her crop management strategy since integrating these tech tools.

I started with a house and a barn.

THERE'S NOTHING WRONG WITH BEING A DREAMER.

ultimate output of the tools - not just their functionality alone - provided her the perfect basis for the education she needed. Her experience as a county FSA director tasked with working with complicated government farm programs didn't hurt that effort either.

"I'm learning. I'm just going to take all of this data from harvest, study it and figure out how to use it for next year," Howell says. "It's a lot of data - I do feel like I'm surfing a tidal wave sometimes - but this technology and the data it produces is easy compared to some of the government programs I work on. There are so many capabilities here that I just need to understand how to operate, then put them to work on my farm."

FUTURE TECHNOLOGY INTEGRATION

Looking ahead, Howell sees the process she just began as something of an evolution. She knows the data she compiles this early on will be important to her long-term success as she advances her technology adoption.

"It will be nice to continue to have my Ag Leader dealer to rely on through the process," Howell says. "We will get more accustomed to making decisions based on this technology, which will benefit us in a lot of ways. Next time

I go in for an operating loan, I can show my lender what I've been producing."

Agronomically, she already knows she'll make changes to her fields in the next year that she expects to improve yields. "I want to be able to apply nutrients better and install tile lines to improve drainage," she says. "Those kinds of improvements are exciting." Howell anticipates her Ag Leader precision tools will help her evolve in other ways, especially when it comes to marketing and managing her grain stocks.

"We'll see every bushel coming in, we'll know exact moisture levels and be able to look at more outlets for marketing that grain," she adds. "This will give us a lot more flexibility during harvest."

As for her continued pursuit of efficiency through technology, Howell looks no further than Al Myers, Ag Leader president and founder, for inspiration moving forward.

"Al Myers started Ag Leader in his garage, and look where he is today. I started with a house and a barn, and here's where I am today," she says. "There's nothing wrong with being a dreamer."



SURESTOP PLANTER CLUTCHES

SureStop Clutches turn planter sections on or off row-by-row, allowing Howell to maximize planting efficiency by better managing seed population during planting.



ONTRAC3 ASSISTED STEERING SYSTEM

Howell can move it to different pieces of equipment throughout the year. Along with her GPS 6500, OnTrac3 will provide Howell assisted steering and guidance in the field.



INCOMMAND 1200 DISPLAY

The InCommand 1200 display enables Howell to view and document field data from planting through harvest and everything in between. AgFiniti then allows her to take the information with her from the cab, and share with her trusted advisors.



GPS 6500 SYSTEM

Will enable specific, precise guidance for field operations, including fully scalable, rugged Smart Antenna, designed to meet the need of extended RTK baselines in excess of 20 miles, or capable of WAAS and/or TerraStar corrections as well.

THE EFFECT OF PROPER DOWN FORCE

During spring planting, there are many things to keep in mind, and often it's hard to prioritize. Stick to the basics. Utilize proper soil conditions, crop residue control and correct planting depth. These are all parts of the foundation to achieve a successful year.



CONSISTENT PLANTING DEPTH

Get consistent, proper planting depth no matter the soil type.



AUTOMATIC RESPONSE TIME

Hydraulic systems react instantly, unlike air bag systems that can take up to 20 seconds or more to respond.

One of the keys to a successful planting season is maintaining down pressure on each row unit.

Some growers still depend on proper adjustment of springs to maintain down pressure to achieve desired depth of their seed. The problem is those springs aren't changing based on soil type or field environment. Proper adjustment of any down pressure mechanism is crucial at planting time. A key thing to remember is to adjust your system and components like springs from field to field when conditions change.

A Hydraulic Down Force system controls and adjusts pressure instantaneously based on field topography and soil conditions, giving you proper planting depth every time, regardless of field conditions. So, how does Hydraulic Down Force work?

Weight on the gauge wheels is sensed at every row where a sensor has been installed. The gauge wheel sensors are the "eyes" of the down force system. Next, the system determines if the force to each row needs to be adjusted. Adjustments are made hydraulically, which allows for almost instantaneous adjustments to down force.

If the gauge wheel sensors indicate more weight is needed, the actuator receives increased hydraulic pressure and increases force being applied to the row unit. If too much weight is present at the gauge wheels, the same actuator will receive a reduced pressure command and reduces force being applied to the row unit.

The display in the cab is the heart of the down force system. Real-time adjustments to down force can be viewed on the display and indicate changes in down force requirements. The display is also where changes to the system can be made. While the system is designed to adjust down force automatically, the grower can indicate if lower than normal down force is desired, possibly due to wet planting conditions, for example.

A fundamental step in a successful planting season is to maintain good down pressure management, which is a critical aspect of operating a planter well. In many cases, growers are looking to either minimize the impact of soil variability or take the risk out of determining the right down pressure. Hydraulic Down Force does both.



SIDEWALL COMPACTION

Minimal sidewall compaction when soils are wet. Sidewall compaction can cause poor germination and uneven emergence.



ROW-BY-ROW CONTROL

With row-by-row sensing and control available, apply variable pressure across changing spots in the field or where more compaction is present, like wheel tracks.



UPLIFT

Uplift springs are available for use in heavy tilled or sandy soils.



HITTING THE SPRING PLANTING TARGET

Will Hutchinson enjoys a good challenge, especially when it comes to improving production on his row crop, wheat and alfalfa farm near Murfreesboro, Tennessee. When he saw the opportunity to leverage Ag Leader's Hydraulic Down Force system to prevent a common problem and improve his planting operations on acres where he plants cover crops, he jumped at the chance. Two years later, he's seeing major corn yield improvements as a result.

WHY HYDRAULIC DOWN PRESSURE WORKS FOR HUTCHINSON

Topsoils are relatively thin in south-central Tennessee, and Hutchinson says during the growing season he's always just "10 days away from a drought." Any departure from normal seasonal moisture - either too wet or too dry - could be devastating to his crops. To help better conserve and manage available moisture, he began integrating cover crops into his no-till rotation five years ago. Today, he plants a mixture of triticale, oats, vetch, peas and occasionally rye, radishes or other brassicas. Though he's still fine-tuning his rotation, Hutchinson says he's learning more about cover crops over time, and his soils are benefiting and helping to sustain and improve his rotational crop yields.

But during spring corn and soybean planting season, his cover crops' ability to maintain steady soil surface moisture isn't always Hutchinson's friend. Especially in years like 2017 - when cool, wet conditions stretched the planting timeframe beyond most farmers' comfort zones - excessive spring moisture becomes a bigger problem than normal in the presence of a healthy cover crop. The more plant matter, both above and below the soil, the more moisture is retained, and that can mean either delays or planting into conditions that are far from optimal, resulting

in a crop whose development is hamstrung from day-one.

"Those cover crops soak water up like a sponge. That can mean a lot of moisture remains on the surface in the field," Hutchinson says. "The resulting wetter conditions can knock us out of our normal planting window if it stays wet for too long."

That's why Hutchinson started to explore increasing planter downforce as a way to plant corn in damp conditions, especially in his fields with cover crops. Typically, heavier downforce in damp conditions would create undesirable soil compaction, but in Hutchinson's unique situation, planting through a thick, green cover crop requires greater force to get the seed through the biomass and into the soil. He describes himself as purpose-driven, deliberate and thorough when it comes to technology on his farm, and far from the most "cutting edge" farmer. For him, integrating Ag Leader's Hydraulic Down Force system was all about function, not new technology.

"We knew we'd be planting in wet soil conditions, and really thought precise control of down pressure would have good potential to pay off. That's what compelled us to give it a try," he says.

THE HYDRAULIC DIFFERENCE

After researching the marketplace, Hutchinson found Ag Leader's ISOBUS-compatible Hydraulic Down Force system to be the best fit for his operation, both in terms of the product's performance and the support he received in integrating it into his planting operations.

"We were using a different system before, but I was only able to apply so many pounds of down pressure to the planter gauge wheels. Ag Leader's Hydraulic Down Force was able to apply about 30 percent more, so that was part of our big push to use this system," Hutchinson says. "The system was simple and highly functional, and we really like Ag Leader's service."

Hydraulic Down Force's mettle was tested in the spring of 2017 when Hutchinson said he faced wetter-than-normal conditions. Without the system, he said he would have been kept out of the field completely. Instead, he was able to plant his crop in the ground and start off at the right time.

"This spring was extremely soggy, but with the combination of the cover crops and hydraulic downforce, we were out planting in a lot of no-till fields when other guys were sitting," Hutchinson says. "Given the grain markets we're facing today, it's important to hit these timeframes, and Hydraulic Down Force was the right technology to help us do just that."

YIELD AND SOIL BENEFITS

How did it perform? Though it's just one critical piece of the puzzle, Hutchinson says it contributed to corn yields around 20 percent higher than his farm's previous five-year annual production history. And from an operational standpoint, it enabled him to devote attention to different aspects of his farm business at a critical time of the year.

"Early on, it was like a new toy to me, and I wanted to watch it and see how we were doing all the time. But, there's really nothing to pay attention to with it. You set it and it operates from there," he says. "I know it's doing what it is supposed to be doing, and it allows

me to concentrate on more issue-prone parts of planting. There are very few things that are truly 'set it and forget it,' but this one is pretty close."

And as the season progressed, he noticed the absence of a common, sometimes costly problem. "Sidewall compaction was not what I normally would expect. It's really a combination of practices, cover crops and more precise downforce. I would say this Hydraulic Down Force system goes a long way toward minimizing sidewall compaction," Hutchinson adds.

Integrating the system into his planter did require some work. Because he's a no-till farmer, Hutchinson says his soils are "extremely tight" and planting requires a lot of downforce, meaning he had to add weight to his planter toolbar to "give it something to push against." Ultimately, he removed the no-till coulters from the planter after adding necessary weight. While that combination is admittedly hard on his planter's disk openers, replacing them each year is a small price to pay for the benefits to planting and early emergence the system provides.

"Our stand has just been fantastic. I think it's a combination of the Hydraulic Down Force system and these other small adjustments," Hutchinson says. "We also added spiked closing wheels, and they really helped a lot."

Looking ahead, Hutchinson says he'll continue to refine his cover crop rotation to maximize the benefits of the system to his soil health and quality. One constant factor will be his continued use of Hydraulic Down Force. He expects the system's return on investment will grow stronger in the long run, especially if he's able to integrate it into more than one planter.

"I feel confident that we can expect really positive ROI benefits on the system, especially if we can have it on two planters. Managing our planting time window is the biggest benefit now, but I feel confident that it will definitely continue to pay off when we face challenging spring planting conditions like we had this spring," Hutchinson says. "It's a really good product, and I'd buy it again in a heartbeat."

“MANAGING OUR
PLANTING TIME
WINDOW IS THE
BIGGEST
BENEFIT.”



SHORTENING THE TECHNOLOGY ADOPTION

Some farmers enter into precision agriculture with a single tool, function or outcome in mind. David Taylor started with more lofty ambitions, and it's driven his technology adoption ever since.

Taylor's initial goal 11 years ago was to create a network of tools and software that would collect data from every field operation on his farm near Como, Mississippi. He wanted to collect easy-to-navigate, actionable data that he could leverage in making decisions to improve the efficiency and overall output of his family's 5,500-acre corn, soybean, cotton and peanut farm.

"The more I know, the more I realize I don't know. Just when I think I'm going to figure something out, I lose it."

PRECISION AG AND ROI

Taylor began integrating new precision ag tools into his operation shortly after his return to the farm in 2006. He's made it a point to keep the learning curve short and always connect each new technology tool he integrates into his operation to his return on investment (ROI).

"I'm trying to be realistic about what is going to have ROI and what's just going to end up being a toy," Taylor says. "I want to be able to show that this stuff is paying for itself and that it's making us money."

In researching precision tools he felt were necessary to his farm's future, he landed on Ag Leader as his provider, beginning with a yield monitor and guidance system and later adding more precise grid mapping to help him maximize crop input efficiency.

"We do a lot of grid soil testing, variable-rate applications and in-soil variable-rate nitrogen applications," he says. "I realized I needed to focus not just on these specific functions, but do a better job of collecting and archiving all of this data. The more data I have and the more precise it is, the better off I will be."



curve

5 TECH ADOPTION TIPS

David Taylor recognizes that not all farmers are quick to make precision agriculture a major part of their operation. He has taken a cooperative approach in working with farmers to educate them on technology and how to begin to utilize it on their own farms. Here are his top five tips.

1 BE OPEN-MINDED.

Don't seek a solution looking for a problem. It's important to take an open-minded approach to technology that accounts for current machinery and expectations moving forward. "If what they have already is working well and meeting their needs, that's great," Taylor says.

2 LEAVE EMOTION AT THE DOOR.

Many times, even with hard numbers in front of them that show the benefit of precision ag tools, it can be difficult to make major changes to a farm operation. "I've been surprised at the number of farmers who are such emotional thinkers. You have to be able to make these decisions logically."

3 SET REALISTIC EXPECTATIONS.

Don't enter into the process of adding precision ag tools to your farm thinking it is going to revolutionize your operation overnight. It takes time and effort, and it's important to recognize that full results won't always be immediate. "I think you have to have a certain amount of data on your own farm to show how these things are working so you can then say 'here's what I spent and here's how much I saved,'" Taylor says. "You have to work it out in the real world, not just on paper."

4 RUN THE NUMBERS.

With the current state of the grain marketplace, any additional investment on a crop farm can lead to anxiety. That's why it's important to ensure any new precision tool you add to your machinery lineup needs to have a thorough cost justification. With many Ag Leader tools, Taylor says it's always been easy to justify adding them - it's just a matter of penciling out the math. "You have to look at dollars and cents, and if something can net you a \$100/acre savings at a cost of \$15/acre, don't let emotion keep you from implementing it," he says. "A system may cost \$40,000, but it may pay for itself in a year."

5 DON'T GET COMPLACENT.

Once you've integrated precision ag tools on your operation, that's no time to pause. It's important to stay on top of the latest tools, their functions and how you can add them to your existing tools to optimize efficiency and production on your farm. "I enjoy it. If I'm interested in something, I can teach myself," Taylor says. "I think once you learn that this stuff can pay for itself and make you money, it can stir excitement to keep learning. It's really become a hobby of mine."



PRECISION AG'S DATA FUTURE

As he continues to stay on the leading edge of the development of precision agriculture tools in the future, one farmer says he sees the value of data growing for crop production. But, as that influence and value grows, David Taylor of Como, Mississippi, says it will be important for producers to keep a close eye not just on the quantity, but the quality of the data they're collecting.

"If your data is not coming from well-calibrated tools, it's going to be garbage," he says. "Farmers need to make sure their yield monitors are calibrated correctly to make sure they're getting good, quality data. If not, they're never going to get anywhere."

That growing body of data each farmer will collect will likely be housed in a cloud-based system. Taylor says he uses AgFiniti - Ag Leader's cloud-based management platform and app - to track fieldwork progress, something

that's growing in utility and efficiency on his operation.

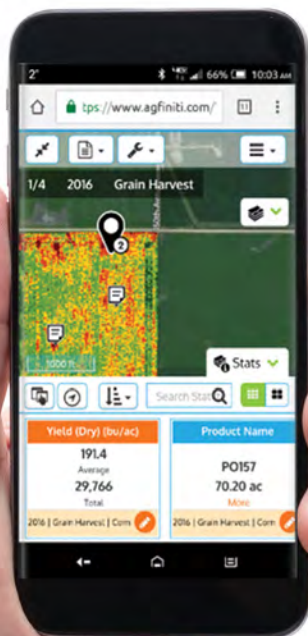
"You feel more connected on the farm with DisplayCast, you can see exactly what we have done each day, how the soybeans are yielding, and things like that," Taylor says. "I don't have to make as many phone calls and it makes everyone on the farm feel more involved in operations and management."

Who will own that data will continue to be a point of contention in the precision ag industry for the coming years as well. Ag Leader takes no ownership of farmers' data, though other companies in agriculture continue to stake claims of either full or partial ownership of customer data.

"Some companies are really vague in their language about it. But, if it comes back to your farm and anybody else is deriving any value from that data, you should be getting compensated for it," Taylor says. "I think what's needed is transparency about that value."

One day in the next few years, Taylor expects automation to become a larger part of precision ag, to the extent to which decision-making on some parts of a crop operation may become a thing of the past.

"As computer software gets more advanced, I believe all of this data will eventually feed algorithms that will be able to automate some functions. It's still a ways off, but I think it's going to create the need for a lot of data management services who can make unbiased recommendations based on all this data," he says. "Most farmers will want to have input, though. There are a lot of questions to answer, and it's always going to be important to recognize that with all these decisions, no two farms are exactly the same."

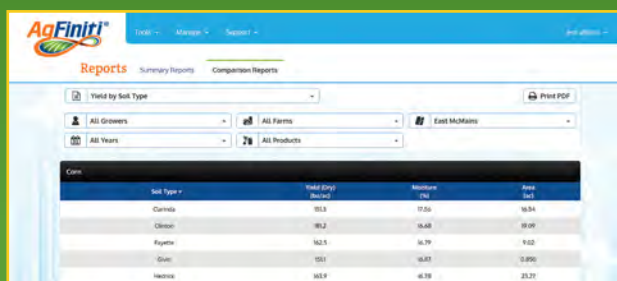


INSIGHTS

SIMPLIFYING CONNECTIVITY IN THE CAB

Building upon its vision of full-farm connectivity, Ag Leader announced InCommand display users will be able to access all in-cab, internet-based functionality through a single data connection source.

Today's farmers need a simple way to access a reliable internet connection in the cab for precise machine control requiring RTK correction and to connect the entire farm with real-time and historical maps and data. With the firmware release in February, InCommand displays will have the ability to connect to NTRIP networks for RTK corrections and Ag Leader's cloud-based data management platform, AgFiniti, through the same connection source using one cellular data plan.



| Crop | Soil Type | Yield (bu/acre) | Seed Rate (lb/acre) | Area (ac) |
|--------------|-----------|-----------------|---------------------|-----------|
| Corn | 100.0 | 100.0 | 100.0 | 100.0 |
| Wheat | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean | 100.0 | 100.0 | 100.0 | 100.0 |
| Alfalfa | 100.0 | 100.0 | 100.0 | 100.0 |
| Hay | 100.0 | 100.0 | 100.0 | 100.0 |
| Barley | 100.0 | 100.0 | 100.0 | 100.0 |
| Oats | 100.0 | 100.0 | 100.0 | 100.0 |
| Flax | 100.0 | 100.0 | 100.0 | 100.0 |
| Canola | 100.0 | 100.0 | 100.0 | 100.0 |
| Mustard | 100.0 | 100.0 | 100.0 | 100.0 |
| Turnip | 100.0 | 100.0 | 100.0 | 100.0 |
| Radish | 100.0 | 100.0 | 100.0 | 100.0 |
| Beet | 100.0 | 100.0 | 100.0 | 100.0 |
| Chickpea | 100.0 | 100.0 | 100.0 | 100.0 |
| Lentil | 100.0 | 100.0 | 100.0 | 100.0 |
| Pea | 100.0 | 100.0 | 100.0 | 100.0 |
| Field Bean | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Meal | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Hull | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Oil | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Cake | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Meal | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Hull | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Oil | 100.0 | 100.0 | 100.0 | 100.0 |
| Soybean Cake | 100.0 | 100.0 | 100.0 | 100.0 |

AGFINITI ADDS VALUABLE ANALYSIS TOOLS

Quick data comparison features now allow you to dive deeper into your harvest data. Easily compare yield by population/seeding rate, by variety/hybrid and by soil type. Comparing by attribute is a snap in the cloud! See how planting rates affect yield or look into the yield by soil type and quickly visualize the difference between varieties and yield. Simply choose which report you want to run and adjust the filters. No set-up required!



INCOMMAND 3.0 BRINGS NEW FEATURES FOR SMOOTH PLANTING

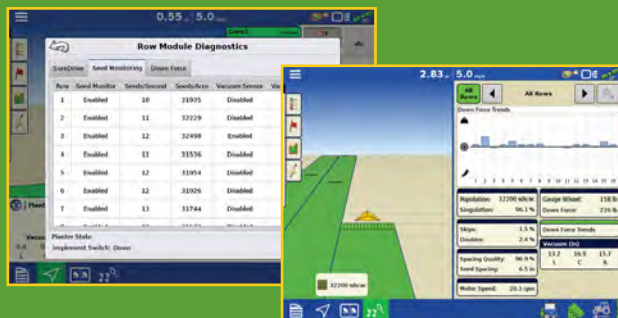
InCommand displays firmware version 3.0, released last December, brings some convenient new features that allow for the best planting performance this spring.

DOWN FORCE TRENDS GRAPH

At a glance verification that each row is automatically adjusting down force as expected. Quickly and easily verify correct installation and operation health of the down force system.

PLANTER PERFORMANCE SPLIT SCREEN FOR ALL CROPS

The planter performance split screen is now available for all crop types when using row-by-row down force. This means that all crop types will display readouts for population, seed spacing, meter speed (SureDrive) down force applied, gauge wheel readings and trends, as well as vacuum (if equipped).



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Ames, Iowa 50010

LEARN MORE AT

AgLeader.com

SO SIMPLE EVEN DAD CAN TEACH YOU

Unlocking the power of your field data shouldn't be complicated. That's why we built InCommand™ — an all-in-one display that connects your entire operation — every display, field, and row.

Plus, instantly take maps with you anywhere on any device with AgFiniti®, and see your field data like you've never seen before.

It's really that simple. And Dad approved.

Visit AgLeader.com/InCommand



Ag Leader®