Winter 2012

Insights

The Precision Farming Magazine

Spring Nitrogen Application:

The Studebaker of Farming?

Harvesting the Value of Data:

Can You Handle the Truth?

Living a Double Life

Contents

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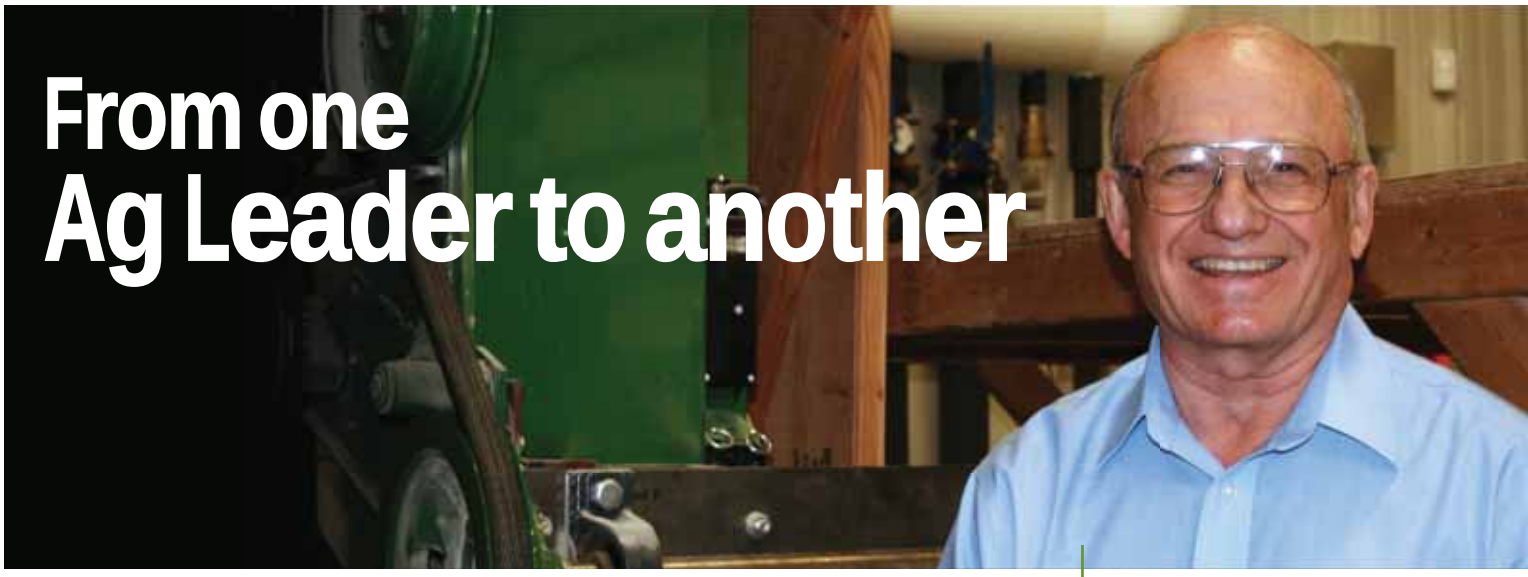
From one Ag Leader to another



It brings me great pleasure to introduce the debut issue of *Insights* – a magazine entirely devoted to precision farming. This new publication – which replaces our newsletter that bore the same name – is the cause of much excitement here at Ag Leader, and we hope you find its contents both educational and enjoyable.

So, why replace a perfectly good newsletter with a magazine? To make it even better for you! While the newsletter achieved its intended goal of keeping you up-to-date on valuable precision farming information, we wanted to bring you even more tips and information you can utilize to make your farming operation more efficient and profitable.

In addition, the sheer breadth of a magazine gives us the space needed to provide you with an in-depth analysis of what's happening today in precision agriculture, and show you how you can capitalize on the technologies now available to growers. This not only includes what's happening at Ag Leader, but also what's transpiring throughout the entire industry.

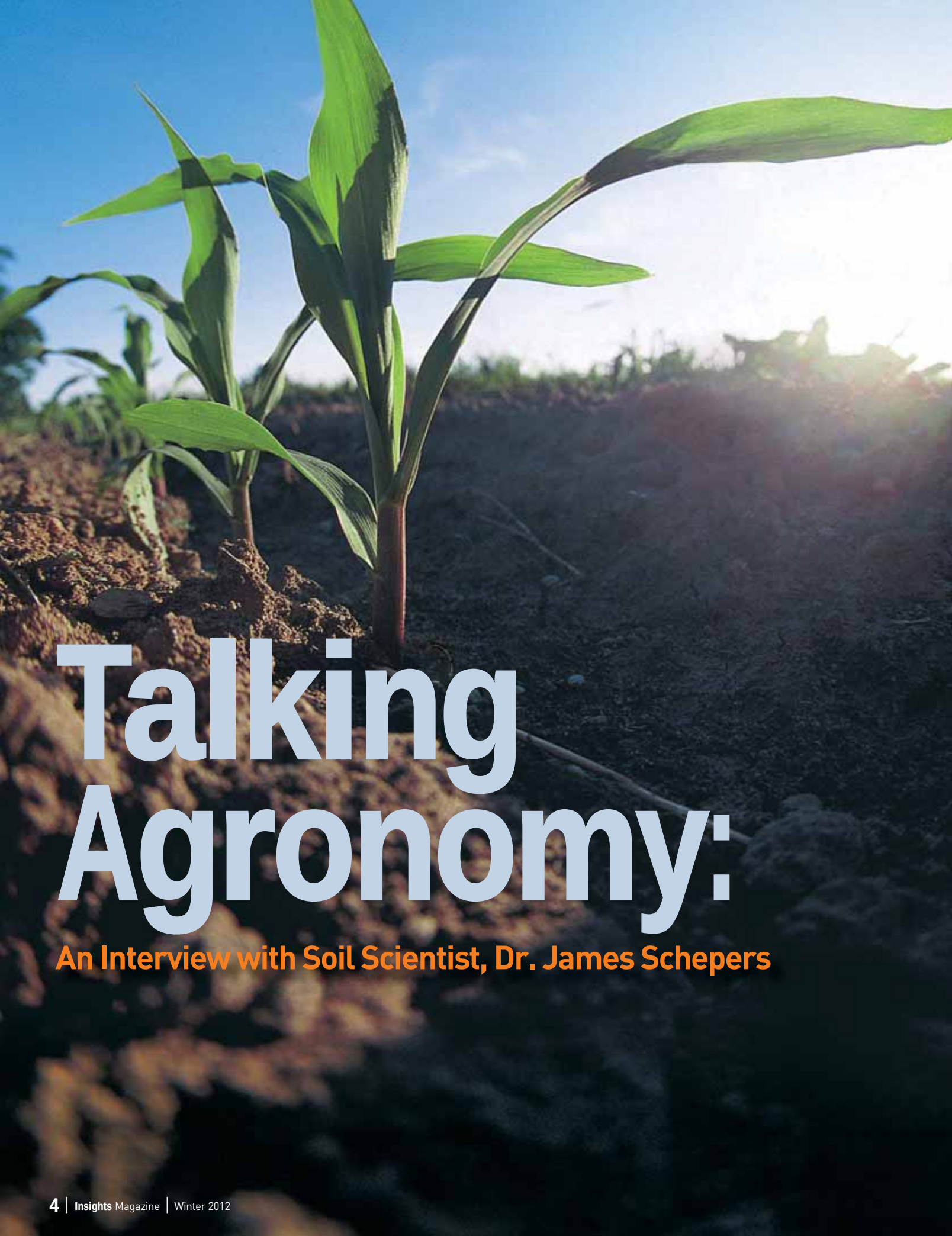
Insights will show you how growers are using precision products – both old and new – to make their operations more efficient and profitable. We will introduce you to leading agronomists and share valuable agronomic information you can use to make informed decisions in the field. And we will take you inside Ag Leader so you can meet the people responsible for developing Ag Leader's line of innovative precision farming products.

We're excited to have a new way to bring more valuable information to growers like you. It is our mission to be your go-to specialists for everything precision agriculture. We hope you will enjoy the new *Insights* magazine.

Best regards,

Al Myers

"Insights will show you how growers are using precision products – both old and new – to make their operations more efficient and profitable."



Talking Agronomy:

An Interview with Soil Scientist, Dr. James Schepers

"Precision technologies are ahead of the science in many cases and well positioned to play a major role when environmental issues come to the forefront. The need for spatial and temporal management is sure to become a part of profitability in the future."

Insights: From an agronomy standpoint, what do you consider to be the biggest issues facing growers today?

JS: Unfortunately, issues that are out of their control. Down south we hear an awful lot about the ongoing drought. To the north it's dealing with unusual rainfall events that cause a lot of leaching. These things can't be controlled, so farmers have to find ways to work around the conditions to protect themselves. The strategy most common in Nebraska has been to put the fertilizer in the irrigation water. Because if you can't control everything, you at least have to control the variables that you can.

Insights: What other important factors should growers try to control?

JS: They need to make sure the genetics match the level of management. It's particularly important to make sure you're maintaining enough nitrogen throughout the entire growing season, using strategies that protect you from nitrate losses without introducing excess nitrate. Mainly, it's about meeting the nutrient needs of the crop. What once qualified as adequate levels may now be out of date for the high-yielding hybrids we see today.

Insights: What should growers do to take advantage of strong grain prices?

JS: I come from a conservative family, so my first thought is that they should pay down debt. Update equipment and implement some new technologies that provide value, but always avoid lurching into debt if you can, because the cycle here is that grain prices go up and everyone wants a piece of the pie. What can't be overlooked is that input costs go up whenever grain prices increase, so how can you distribute input costs when grain prices decline but those input costs remain high? My suggestion is to take advantage of the grain prices while you can by locking in some portion of future production and planning for what it will take to increase yields.

Insights: What trends are you seeing in the industry in terms of using information and technology?

JS: Growers keep asking more and more questions, and there aren't enough universities to conduct the tests necessary

to provide the answers. So the agriculture industry has been gearing up to address these questions. Individual industries obviously have different delivery approaches and capabilities, but it's evident that the industry needs to play a larger role in technology transfer, while making sure the information being delivered remains credible. Industry players are attempting to achieve this by expanding their demonstrations with key producers and bringing in advanced technologies to better characterize and fine-tune management. Some industries are even going directly to larger producers to demonstrate technologies and improve implements.

Insights: What role do you see precision farming technologies playing in agriculture?

JS: Precision technologies are ahead of the science in many cases and well positioned to play a major role when environmental

Dr. James Schepers, a retired soil scientist with the USDA-Agriculture Research Service in Lincoln, Nebraska, spent nearly 25 years working to develop new technologies and strategies that help farmers keep nitrates out of the groundwater without reducing yields. Schepers was instrumental in developing mobile chlorophyll meters and remote sensors that evaluate soil properties and monitor crop growth to enhance precision agriculture practices. Insights recently caught up with Dr. Schepers to discuss the current state of agronomy in America.

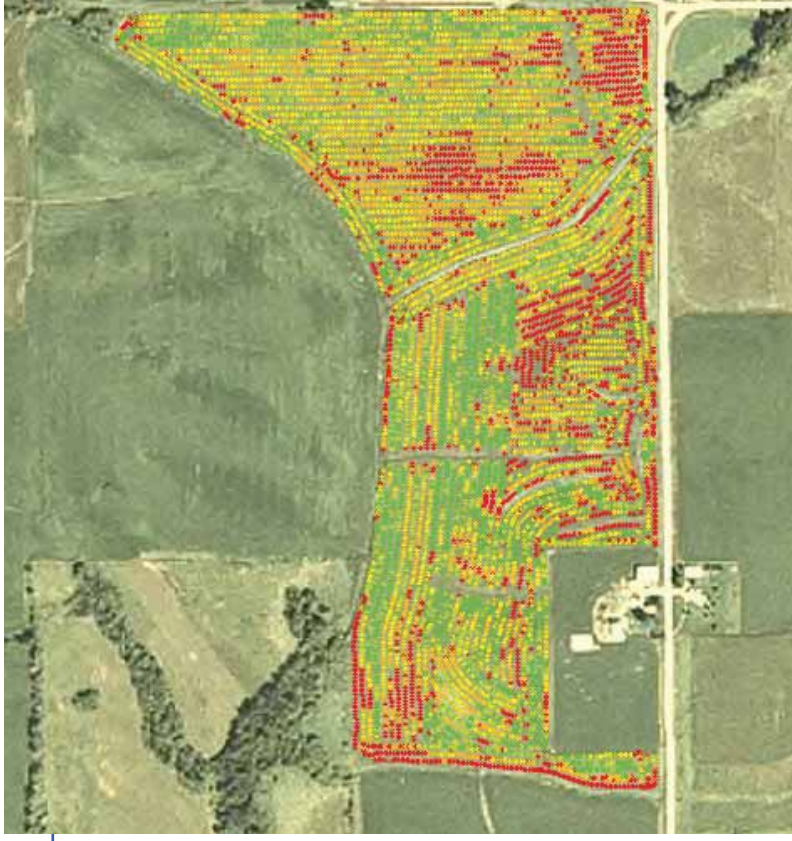
issues come to the forefront. The need for spatial and temporal management is sure to become a part of profitability in the future. Many producers are reluctant to step up to a higher level of management because they don't want to accept the risk and would rather not embrace a technology that they do not understand. Profitability is currently adequate so they don't consider it necessary to become more involved (many farmers have become complacent). Large farmers are using the developed technologies and doing the pioneering in engineering and nutrient management.

Insights: What inhibitors might prevent a grower from embracing precision farming technologies?

JS: Intimidation. Definitely intimidation. What to do with all the data that is collected. It used to be that some growers would brag about the stacks and stacks of yield maps they had sitting around. And yet they didn't know what to do with them. They couldn't make sense of the information in a manner that enabled them to make better management decisions. That's what farmers are looking for, the tools that can help them in the decision-making process so they can take advantage of what nature has given them in organic matter, water holding capacity, livestock manure and so on. Taking advantage of precision farming technologies allows you to integrate all these facts and ideas to form a plan, like distributing nutrients where they're needed and not simply dumping a blanket of fertilizer across the whole field. And, aside from the intimidation factor, they have to be certain that it will be profitable.

Insights: What areas of precision farming can be improved?

JS: Some of the larger farmers have hired their own full-time consultants. There is a critical need for super-consultants that can bridge the gap between the field scouts and producer decisions that make use of yield maps, imagery, spatial management, etc. Producers that are willing to do some in-field testing will find it mutually beneficial to discuss their findings, problems and solutions. Neighbors might have trouble participating in such discussions because of competition issues,



"Each field map can have multiple values depending on the management practice under consideration. Everyone that looks at a picture will see something different because of the unique experiences shaping their perspectives. So there needs to be a biological explanation that links the maps to an outcome. Producers are excellent observers but frequently have difficulty establishing linkages between various observations and other types of data they may have. For example, soil test reports can provide the background to help explain many soil reactions and plant responses."

but individuals from different regions or areas using similar technologies freely share experiences, problems and solutions.

Insights: Explain some examples of how a grower can use field data and software to help make smart decisions.

JS: Each field map can have multiple values depending on the management practice under consideration. Everyone that looks at a picture will see something different because of the unique experiences shaping their perspectives. So there needs to be a biological explanation that links the maps to an outcome. Producers are excellent observers but frequently have difficulty establishing linkages between various observations and other types of data they may have. For example, soil test reports can provide the background to help explain many soil reactions and plant responses.

Insights: How do you see technology playing a role in the decision-making process?

JS: Expert systems that have models running in the background should be able to offer producers several options. The key is for farmers to have a backup plan for unfavorable weather and a way to maximize potential when growing conditions are ideal. So even if you can't control everything, you're assured that you're making the best possible decisions given the circumstances.

Insights: What new technologies should growers have on their radars?

JS: Sensors. All kinds of sensors. For those tractor drivers whose agronomic background may be somewhat limited, sensors can help bridge the gap and provide valuable insights as to why they're getting certain results. Examples of this might be thermal IR infrared that can evaluate water differences in soil and plants, ISOBUS communications, fine-tuning tissue testing, and wireless remote monitoring of field activities.

"Expert systems that have models running in the background should be able to offer producers several options."

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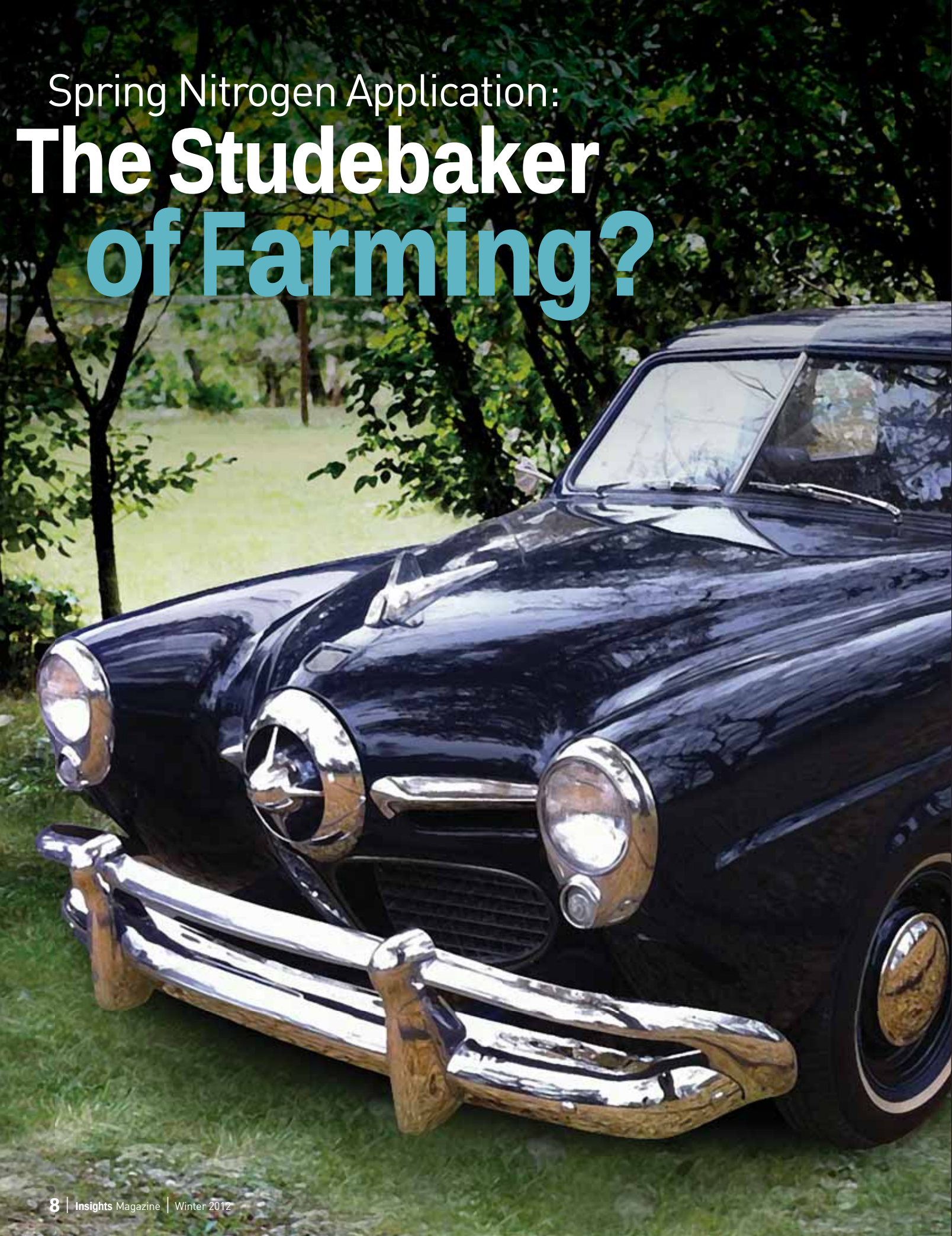

Spring Nitrogen Application:

The Studebaker of Farming?

In 1852, Studebaker Brothers Manufacturing Company was founded in South Bend, Indiana, and quickly became one of the leading manufacturers of horse-drawn buggies in North America. As technology advanced in the early 1900s, they were one of the few buggy companies to survive the transition to automobile manufacturing. The company enjoyed tremendous success for nearly 50 years as the market for automobiles grew steadily. However, in 1967, the last Studebaker rolled off the assembly line. The company was a victim of failing to change. When times were good and the market was growing, they failed to do things to make themselves more efficient. When the market became more challenging, it was more difficult for them to remain profitable.

So, what does this have to do with farming?

Well, for the past several years, high crop prices and new technologies have made it easier to make money in farming – even if you haven't been looking for ways to improve your operation's efficiency. But what happens when the markets aren't so favorable? Making a profit might be a lot more challenging.

One of the bigger opportunities to improve your farm's efficiency? Changing how and when you apply nitrogen.

For years, early spring nitrogen application has been common practice. From a timing and equipment standpoint, it's just easier. However, research has shown that spring nitrogen application is much less efficient than providing nitrogen to the crop at the time the crop needs it most. This is especially true in areas where wet spring weather after nitrogen has been applied can significantly reduce the amount of nitrogen available to the plants due to denitrification.

In fact, areas of the field that are waterlogged can lose up to five percent of available nitrogen every day. That means applying most of your nitrogen before a wet spring can significantly reduce nitrogen availability to the crop when it is most needed in the early stages of growth. In corn, for every pound of nitrogen lost, yield potential is reduced by a bushel per acre. In wheat, every two pounds of nitrogen lost costs a bushel per acre.

"With seed costs and other input costs as high as they are, growers are beginning to understand that changing their approach to nitrogen application can have a great impact on reducing the cost of lost nitrogen in the spring and increasing yield potential in the fall," said Chad Fick, product specialist at Ag Leader Technology. "It's not always easy to change how you've done things for years, but when you look at the potential of increasing your profitability by $15 or $20 per acre – like we are seeing in some of the newer nitrogen application strategies – it's hard to ignore that – even if the markets are good."

Fick mentions one of the newer tools for better managing nitrogen application is OptRx crop sensors. Installed on a nitrogen toolbar or high clearance sprayer boom, OptRx reads plant health and applies nitrogen in real time based on varying needs throughout the field.

"We've been field testing this technology for three years now. We're usually seeing a $15 to $20 increase in profitability per acre. In a few cases, we've seen $100 per acre. We think that's worth changing how people look at nitrogen application," said Fick.

The trick, however, is convincing growers to not apply a large percentage of their nitrogen in the early spring, instead shifting it to early summer.

"It's really a trust issue. To a grower, not applying nitrogen around planting season is a risk. But we think the bigger risk is in potentially giving up higher profitability per acre. But growers should start considering this now – while times are good – so when the market does take a downturn (and it always does), these new practices will help keep growers profitable," said Fick.

If only Studebaker would have taken the same approach sixty years ago, maybe today's successful farmers would be driving to town in a shiny new pickup badged with a stylized 'S' on the hood.

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11 Things To Love About the New VERSA™ Display

VERSA™

There are two types of growers the all-new VERSA precision farming display was designed to appeal to most: those who have never owned a year-round precision farming system ... and those who already do.

If you're a precision farming beginner, the VERSA's intuitive 8.4-inch touchscreen display and capability of handling operations from planting through application and harvest means you have an easy-to-use system that won't require you to relearn how to use your in-cab display every time you switch vehicles and seasons.

And, if you're already using precision farming technologies on your farm, you may need an additional display when you have more than one piece of equipment in the field – but you also don't want to pay for redundant features that you may already have in your current display.

No matter which camp you fall into, here are 11 things you'll love about the new VERSA display:

1. **It's color blind.** Whether you're a loyalist with a complete matching set of same-colored field equipment or you've got a multi-colored equipment shed, the VERSA display will work with your equipment. In fact, you can even switch it between equipment of different brands – something that is not always possible with factory-installed precision farming equipment.

2. **Proven architecture.** The VERSA was built using the same industry-leading technology architecture as the full-featured INTEGRA display. That means your field data is managed using the same formulas and algorithms, reducing the potential for problems passing data between different computers, precision farming software or to different service providers.

3. **Year-round investment.** Sure, you could buy a display for planting, a different display for application and then yet another display for yield monitoring. But that would require you to learn (and relearn) multiple systems – and try to figure out how to consolidate your information into your software so you can get the most out of your precision farming system. Instead, the VERSA display is designed to help perform the most popular precision farming activities – like guidance, data logging, mapping and auto-steering – all year-round.

4. **Less field time.** Time is money. Fuel in the field is also money. The VERSA display allows you to control multiple products – liquid or granular (up to 3 total) – simultaneously. Fewer passes across the field means less yield-robbing soil compaction, lower fuel costs, reduced wear on field equipment and more time to manage more acres.

5. **Eliminates cab clutter.** Remember when you had multiple equipment in the cab to control various precision farming activities? The VERSA controls many key functions — guidance, planting, application, yield monitoring and mapping — in one small package. Not only does that mean fewer things to set up and calibrate. It also means the data that you use for decision making all comes from one source – your VERSA display.

6. **Cost.** If you don't need advanced features like Advanced Seed Monitoring, OptRx crop sensor control and Smart Reports™, you shouldn't have to pay for them. The VERSA includes the key features that most look for in a precision farming monitor – like AutoSwath, variable rate control, data logging, yield monitoring and guidance. Of course, if you decide to step up to the full-featured INTEGRA display later, it's easy.

7. **Yield monitoring.** Yield monitoring has been around so long, many take it for granted. However, the technology behind the VERSA display's yield monitoring has been refined for more than a decade and is considered the most accurate on the market. And if you're basing your operations' decisions like which seed to purchase or when to apply your nitrogen to have the best impact on yield, it helps to have accurate information at harvest time.

8. **Accuracy.** With guidance and steering technology continually changing and improving, it's important to have a display and GPS receiver that can work in tandem with all types of GPS correction signals. VERSA works with virtually any GPS receiver that can receive industry-standard signals – including WAAS/EGNOS, OmniSTAR HP/XP/VBS, GLONASS and RTK networks.

9. **Variable rate control.** If you could apply more inputs in areas of your field that need it and less in areas that don't, you could increase yield and reduce input costs. By importing prescription maps from your precision farming software or your crop consultant into your VERSA display, you can do this automatically.

10. **Split planting.** Want to test the performance of your seed hybrids or varieties? VERSA lets you fill half the planter with one seed type and the other half with another. When you come back in the fall to harvest, VERSA knows exactly which hybrid or variety you are harvesting, so you can compare results side-by-side.

11. **Better spraying technology.** Got a sprayer? The VERSA display can help reduce overapplication and damage to other crops due to spray drift because it integrates seamlessly with NORAC boom height control, which senses the height of the crop and raises/lowers the boom height accordingly.

So, as you can see the all-new VERSA precision farming display has plenty to offer. These 11 examples are merely the beginning of the list ... a list that continues to grow each time a new grower utilizes the VERSA display.

For more information, visit agleader.com.

Harvesting the Value of Data:

Can You Handle the Truth?

So much of today's precision farming efforts are in finding ways to help growers save money. But profits are driven by yield increases. And today, yield increases are driven by data-based management decisions.

In the movie "A Few Good Men," there's a courtroom scene where Jack Nicholson, after being pressed for answers on the stand by Tom Cruise, sneers and shouts, "You can't handle the truth!" and explodes into one of the most classic movie monologues of all time.

As growers, you often make assumptions about things you see in your fields. Often, these assumptions pose as truths for years. But have you ever wondered if some of the things you've assumed as truths really are true?

One of the bigger initiatives Ag Leader is taking on is "The Value of Data" - helping growers get more value out of the data they have collected from the field. It's all about asking questions.

So much of today's precision farming efforts are in finding ways to help growers save money. But profits are driven by yield increases. And today, yield increases are driven by data-based management decisions. The information that is recorded by precision farming displays has a lot to tell us. Our job is to ask questions that will help us find answers not just about saving money on inputs, but more importantly, on ways we can increase yield.

Here's what I'm talking about: there is significant savings to be realized when using precision farming technologies in your planting or tillage operations alone. For example, reducing tillage overlap error by 7% can increase your profitability by $.96 per acre. Not bad. Reducing planting overlap by 3.3% across the field will increase your profitability by $7.89 per acre. Are both of these worth pursuing? Definitely.

When you compare the overall economic impact of these cost-saving measures to the impact even a small increase in yield gain can have, you'll see that the real money in using precision farming technologies is in making management decisions that will increase yield. Look at the chart (Fig. 1). Even a one-percent increase in yield can have 30% more impact on your bottom line than the savings from reduced planter overlap. The trick is knowing what questions to ask that may give you the opportunity to improve yield.

Take this field, for example (Fig. 2). Drainage throughout a good percentage (61 percent) of the field is rated as poor. But if hybrid selection could reduce the drop-off from the "somewhat poor" drained areas to "poorly" drained areas by even 50 percent, the impact on the total field would be an increase of $47 per acre (Fig. 3).

If you invested in tiling some of the poor drainage areas, could that have a positive impact as well? Of course it could. Could side-dressing nitrogen in these poor areas of the field using an OptRx crop sensor improve yield potential even more? Sure it could. Which of these options would provide the highest payback? Ah, see? Now you're asking the right questions. And that's exactly what we're talking about.

When you start asking questions and challenging assumptions you have about your operation, you open the door to improving your operation's profitability. By using data to help you find answers that can improve profitability, you can start to identify ways to both reduce costs and increase yield potential.

If your data can help you do this, who couldn't handle the truth?

Fig. 1

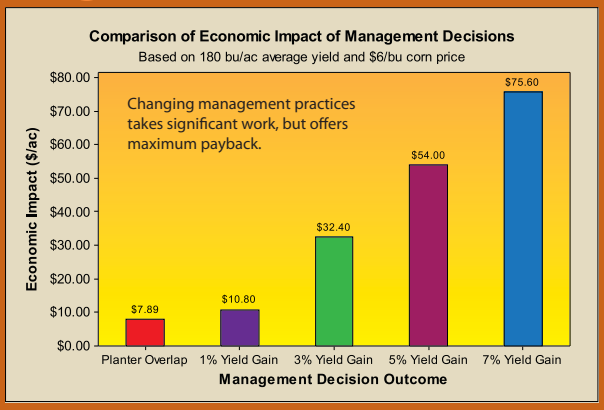


Fig. 2

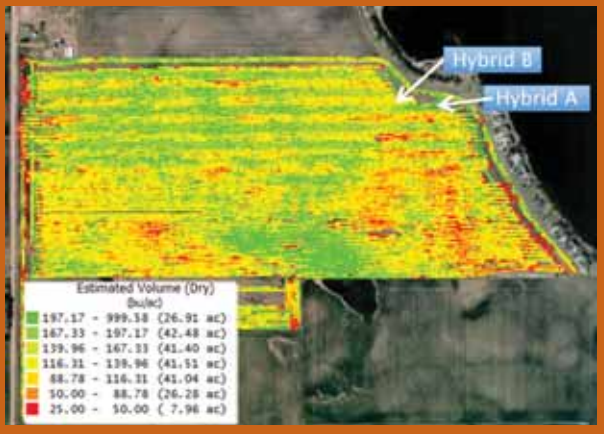
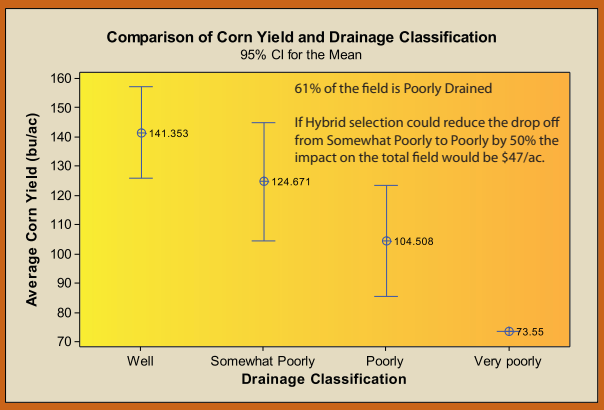
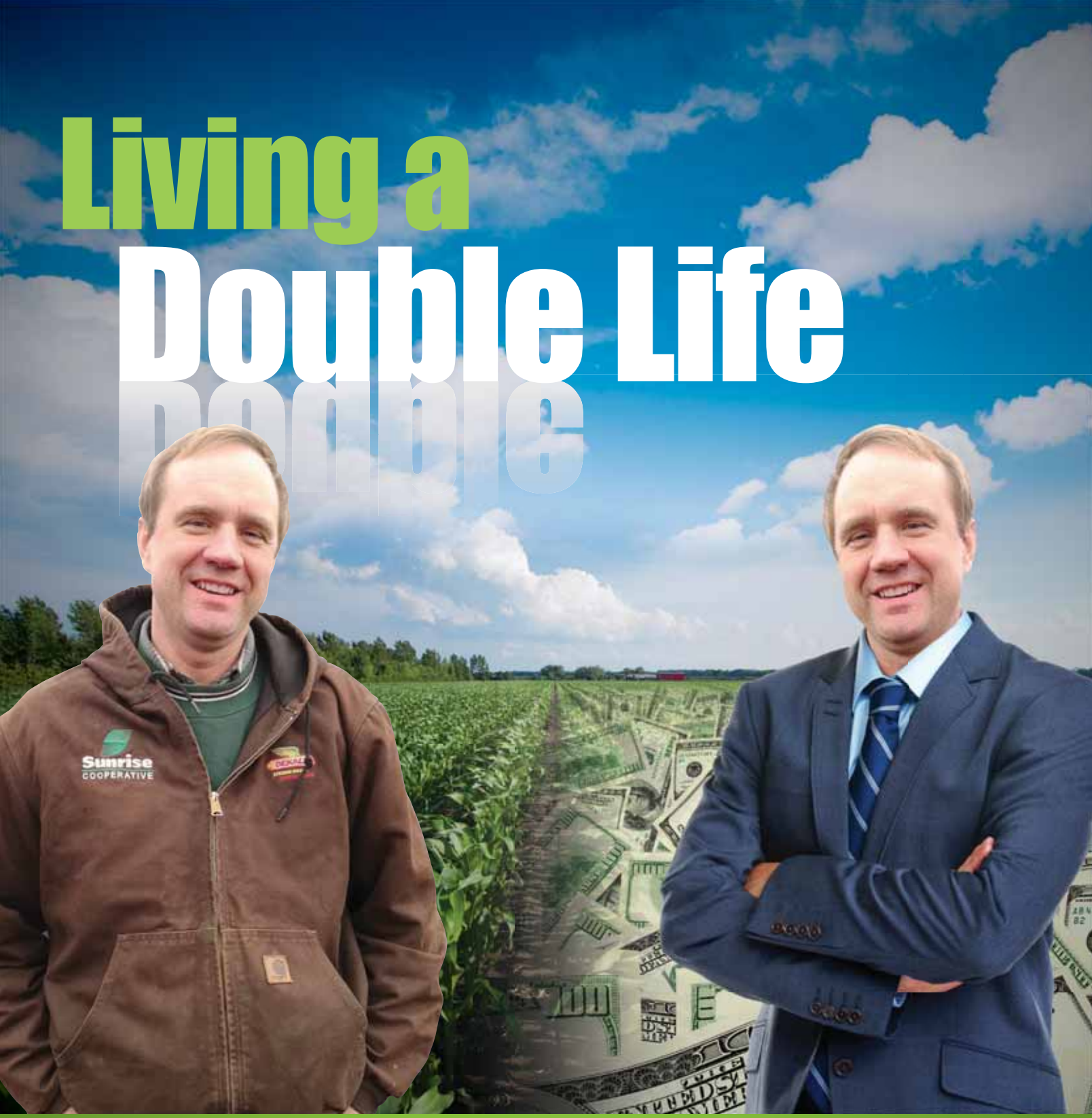


Fig. 3



Living a Double Life



"I probably shouldn't call it a hobby because I don't just do it for the sake of doing it. I want the farm to make money. It's another way to diversify income streams, both now and in retirement, so that I'm not just relying on one avenue." - Mike Sunderman

"Some guys think I'm ridiculous for how many hybrids I plant, but I'm always looking to try some new stuff," Sunderman said. "I basically have a test across the whole farm. For some of my neighbors who I know pretty well, I am their research farm."

Diversify your portfolio to limit risk exposure. It's a fundamental investment strategy. One that Mike Sunderman uses everyday, whether he's purchasing stocks or planting hybrids. Sunderman's a finance guy and a farm guy, and he relies on similar skill sets to succeed at both jobs.

Serving the community of Wellington, Ohio (pop. 4500), as an Edward Jones financial advisor is Sunderman's primary occupation. He started with an agriculture chemical company right out of college, and whenever he had a little extra money in his pocket he headed straight to his Edwards Jones guy. It was during one such visit that his financial advisor suggested that Sunderman reconsider his career path.

"He asked if I'd ever thought about doing investments as a career, and it started a conversation," Sunderman said. "After talking to some people about it, I realized it would give me the flexibility to have this kind of hobby."

Which leads us to Sunderman's second job: running a 700-acre no-till farm in New London, Ohio, growing corn and soybeans. That's a serious endeavor. Which is why even Sunderman is somewhat reticent to classify it as a mere hobby.

"I probably shouldn't call it a hobby because I don't just do it for the sake of doing it," he said. "I want the farm to make money. It's another way to diversify income streams, both now and in retirement, so that I'm not just relying on one avenue."

That's the financial advisor in Sunderman talking. The man who wears a suit and tie and sits in an office. Then, at four o'clock when the markets close, he switches from slacks to jeans and working boots. But even then, when he's out in the field, he's still analyzing every decision like an investment, particularly those decisions involving seed selection. The field is his portfolio and it's diverse in every sense. One 70-acre field might have as many as six different soil types, so to limit risk exposure he runs a plethora of tests, constantly searching for the perfect formula. It's why he'll plant eight to 10 hybrids on 350 acres. It's why at any given time all the boxes on his 12-row corn planter are rarely filled with a single hybrid.

"Some guys think I'm ridiculous for how many hybrids I plant, but I'm always looking to try some new stuff," Sunderman said. "I basically have a test across the whole farm. For some of my neighbors who I know pretty well, I am their research farm."

Conducting these tests accurately wouldn't be possible without precision farming technology. Sunderman was first introduced to precision farming 13 or 14 years ago, when the local cooperative started grid sampling the fields. Then, eight or nine years ago, Sunderman began using yield monitors to gather more accurate field data. Now he depends on the INTEGRA system from Ag Leader to maximize every facet of the operation, from planting to spraying to harvesting.

Advanced Seed Monitoring through the SeedCommand system helps growers eliminate yield robbing planter problems by monitoring key factors, such as seed meter singulation, skips and doubles, spacing quality and population. This feature has been particularly helpful to Sunderman since he plants so many different hybrids. He can watch each seed go down the tube in the virtual trench and immediately identify any spacing or population issues.

"My old monitor would tell you whether you were dropping the right population per acre, but that was it," Sunderman said. "You can drop the right population per acre, but if the spacing isn't correct you still might have skips and doubles."

Because a square, flat field can't be found anywhere on his land, Sunderman depends on SeedCommand to avoid planting doubles at end points, something he dealt with for nearly 25 years. One 40-acre field in particular has such radical end points (not to mention a wandering ditch) that he could never plant at anything less than 44 to 44.5 acres. Skilled maneuvering, years of experience and a keen feel for the dimensions weren't enough to overcome the land. With SeedCommand he was able to plant it at 40.2 acres this year - saving nearly $500 in seed on that one field.

"Seed is expensive, so we need to make sure we're planting it in the right amount with the right spacing, and that we're

not doubling up and we're not getting skips," Sunderman said. "And if we're paying for traits in new hybrids, we need to know there is enough value in those traits to justify the additional cost of the seed. INTEGRA allows us to gather the information we need to know for sure."

As the season progresses Sunderman moves his INTEGRA system from the planter to the sprayer and then finally the combine. He uses it to keep track of the various fungicides and micronutrients he's testing at a given time. On a 60-acre field, for instance, he might spray three 10-acre strips with fungicide or micronutrients, and without precision farming he'd have to depend on flags to find those areas again. Now, he can analyze the results by simply overlaying the spray map on the yield map.

It's this type of data that drives Sunderman's decision-making process. Just as he studies the markets to make decisions that help his clients realize their investment goals, he uses real, hard data to make sure his farming operation is successful. Every decision is guided by information, and to gather that data Sunderman is apt to try new technology that can provide value.

"There's a lot of technology out there that I call toys," Sunderman said. "But then there's technology that can be utilized in the cab as true management tools. That's the technology that can help you increase productivity and profit per acre."

"Seed is expensive, so we need to make sure we're planting it in the right amount with the right spacing, and that we're not doubling up and we're not getting skips," Sunderman said. "And if we're paying for traits in new hybrids, we need to know there is enough value in those traits to justify the additional cost of the seed."

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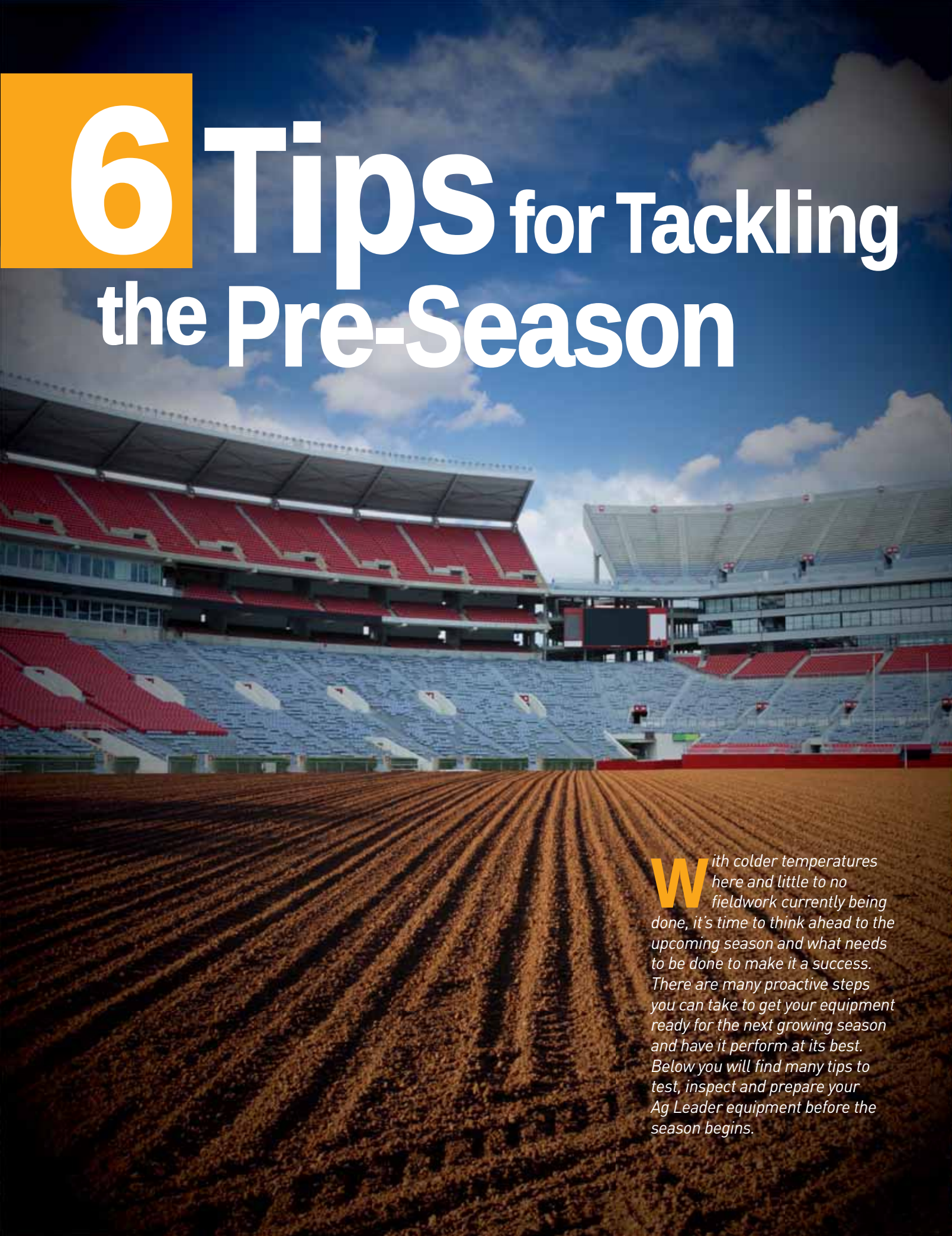
6 Tips for Tackling the Pre-Season



With colder temperatures here and little to no fieldwork currently being done, it's time to think ahead to the upcoming season and what needs to be done to make it a success. There are many proactive steps you can take to get your equipment ready for the next growing season and have it perform at its best. Below you will find many tips to test, inspect and prepare your Ag Leader equipment before the season begins.

6 Tips for Tackling Pre-Season (continued)

Display Preparation

Let's start with the display. For most of you, the last thing you did with your display is copy the log files containing your yield data to your card. If you haven't done this yet, then first you will want to create a backup of your display that will contain all of last year's information and then copy the files. Check our website (www.agleader.com) for any new display firmware and update your display and modules to the current version. Once this is complete you will want to create a new "2012" growing season in your management list. Some of you may have already created a 2012 season for any fertilizing done in the fall; if so, make sure that season is active, then delete any old seasons from previous years. At this point you should be ready to get your Grower, Farm, and Field list in order for the new year. Remove any unused fields from the display to prevent mistakes when loading a configuration on the run screen, then add any new Growers, Farms, and Fields that will be a part of your operation this year. This information can be entered manually on the display or it can be generated through your SMS desktop software and imported, along with any new boundaries, prescriptions or guidance lines needed for the coming year. New products such as hybrids/varieties and chemicals that have been purchased for the next season is another management item you can update before going to the field. If you have purchased new equipment to be used for the upcoming season, this is also a good time to create those configurations in the display and get familiar with any new options or settings that may be available for your setup.

SeedCommand™

Now that the display is ready to go, the next item to check will be your planter or seeder. Start by inspecting the planter for any damaged wires especially near pinch points, and check for any loose or disconnected connections and make sure all connections are clean and free of foreign material. Earlier we updated your display; now we want to connect that display to your planter and make sure the display powers on and that all of the modules on your planter are detected on the CAN bus system. You can do this by going to the System or Device Information button on the run screen. Once all modules are detected you can proceed with updating the module firmware and verifying that your configuration loads to the run screen.

Clutch Control

If one of the items you are controlling through the display is clutches, you will want to check your GPS settings to make sure they haven't changed during any firmware upgrades, or if you are using a new GPS unit. The minimum requirement to use AutoSwath is a 5hz GPS update rate and 19,200 baud rate; recommended is 5hz and 38,400 baud rate. Next you will want to have your configuration loaded to the run screen as if you were ready to begin planting. Raise the planter up and down to verify that the implement switches are working and that the area logging turns on and off. If you have two implement switches, unplug one and test each one individually. While doing this, check the clutches themselves, making sure each clutch functions as it should and engages/disengages the clutch. If not, perform maintenance on the clutches per the manufacturers' recommendations.

SeedCommand offers complete planter monitoring functions, eliminating the need for an additional planter monitor. View data and graphs on population, singulation, skips/doubles in real time on a row-by-row basis. A virtual seed trench view shows the placement of each seed in a row, helping you determine if a problem exists in the seed meter or the seed tube.

Planter Monitoring

For planter monitoring, you will once again need to inspect all of your cabling. Take special care to check the OEM planter monitor harness and the drops connected to each seed tube sensor. Also, turn the display on and test each sensor to verify it counts seed as it is dropped through the seed tube. An important setting to check on the display will be your gain value. The gain value must be set to 1 anytime you are planting corn; it should also be set to 1 for any other crop at the beginning of the season.

Seed Rate Control

When it comes to the population that's being put in the ground, you want to make sure that all your hydraulic drive settings are set correctly. Settings to check include the gear ratio

DirectCommand allows the variable rate application of single or multiple products. The system controls application rates of liquid and granular products automatically based on geo-referenced prescription maps. Variable rate application is available for all supported equipment types including spinner spreaders, self-propelled and pull-type sprayers, anhydrous applicators and strip-till toolbars.

DirectCommand continuously controls, adjusts and records field application based on manually entered target rates or by using rates from a variable rate prescription file. The system uses a flow meter signal and speed input from a radar or GPS receiver. DirectCommand can read up to three optional pressure sensors, eliminating the need to monitor pressure gauges outside the cab.

and the seed meter calibration values. Once you've verified that these are correct, you will want to get the tractor warmed up to operating temperatures and press the Seed Meter Prime button or the Jump Start Switch for Rawson drives and make sure everything turns and is ready to go. Follow the manufacturer's recommendations for yearly or pre-season maintenance on the planter drives and drive components.

DirectCommand™

Once the planter is ready to go, you will want to check over your application equipment. For liquid application you will want to start with the flow meter. Remove the flow meter from the system and have an application dealer clean or replace any worn components and re-calibrate the meter to get a new calibration number. After the flow meter has been checked out it's time to test the rest of the system. Load your configuration to the run screen, then enter a manual ground speed, a target rate, turn off AutoSwath, and turn on all your boom sections. Make sure every valve opens and closes properly. While testing the boom section valves, use manual valve control to open and close the control valve. Again, make sure the valve opens and closes properly; it may be necessary to remove the valve from the plumbing to inspect the movement and make sure it has the correct range of movement. If you're going to try some new target rates or different spray nozzles, check the manufacturer's nozzle chart to determine if the flow rate and pressure needed are attainable for your sprayer. Always do any spraying tests with water the first time out for the season. This enables you to inspect all components, make changes, or adjust settings if necessary to achieve desirable operation without wasting chemical.

By taking these steps before the season starts, you can help save yourself valuable field time this spring. If you have any questions, please feel free to contact Ag Leader's Customer Support department at 515-232-5363.

Your Ag Leader Training Guide

Fall is over, but it's time to start thinking about getting back in the field and what that means for you and your precision ag equipment. This winter, Ag Leader has several customer training opportunities available throughout the country to help ensure you are prepared for the upcoming season. Training sessions will include information about Ag Leader displays, SeedCommand and DirectCommand setup and operation, automated steering with ParaDyme and OnTrac2+ and a host of other topics. At these trainings, customers will learn how to prepare their Ag Leader equipment for the upcoming planting and application season, and they will have an opportunity to receive answers to the common questions regarding their Ag Leader planting, application and guidance equipment.

Topics for 2012 Customer Training sessions include discussions on new features and products for 2012, pre-season preparation tips for planters and applicators, and reviews of the user interface on Ag Leader displays. In addition, customers should come prepared to ask any questions they may have: How does this benefit me? What do I do if this happens? How do I...?

Registration for Customer Training is $25 per session; to register for a training session, contact the Dealer Host. See the list to the right to find a training session in your area. Additional training sessions will be added throughout the year; check with your local dealer or visit www.agleader.com for additional dates.

Hardware Training

Date	Location	Dealer Host	Contact Info	Email
2/13/2012	Effingham, IL	Crop IMS	217-342-5063	accounting@cropims.com
2/14/2012	Janesville, WI	Crop IMS	262-758-9844	abriggs@cropims.com
2/21/20112	Reese, MI	P & C Ag Solutions	989-863-4310	mike@pcagsolutions.com
2/21/2012	Grand Meadow, MN	J & S Repair	507-754-5233	Cody@jsrepair.com
2/22/2012	Grand Meadow, MN	J & S Repair	507-754-5233	Cody@jsrepair.com
2/22/2012	Dundee, MI	Precision Ag Services	419-490-8129	billcopeland@useprecisionag.com
2/23/2012	Hartland, MN	L & D Ag Service	507-845-2100	ldag@ld-ag.com
2/23/2012	Elyria, OH	Polen Implement	440-322-7064	polenimp@polenimplement.com
2/28/2012	Le Grande, OR	Pioneer West	541-663-9378	greg@pioneerwestinc.com
2/28/2012	Sheldon, IA	Ag Partners LLC	712-446-3307	bpeelen@agpartners.com
2/28/2012	Shipshewana, IN	Oxbo International	260-768-3217	degli@oxbocorp.com
2/29/2012	The Dalles, OR	AG-TEQ	541-298-6277	thillman@ag-teq.com
2/29/2012	Le Mars, IA	Ag Partners LLC	712-446-3307	bpeelen@agpartners.com
2/29/2012	Wabash, IN	Agro Chem	800-686-5680	sales@agrochem.com
3/1/2012	Albert City, IA	Ag Partners LLC	712-446-3307	bpeelen@agpartners.com
3/1/2012	Covington, OH	Ceres Solutions	765-362-6700	info@ceresllp.com
3/1/2012	Bryan, OH	Nester Ag Management	419-658-8866	nesterag@bright.net
3/2/2012	Calumet, IA	Ag Partners LLC	712-446-3307	bpeelen@agpartners.com
3/6/2012	Denver, IL	West Enterprises	309-944-7309	westent@geneseo.net
3/7/2012	Remington, IN	Peterson Ag Service	765-314-3276	sales@petersonagservice.com
3/8/2012	Princeton, IL	West Enterprises	309-944-7309	westent@geneseo.net
3/8/2012	Columbus, IN	Jacobi Sales	812-523-5050	hoeing@hotmail.com
3/8/2012	Crawfordsville, IN	Bane Equipment	765-866-0253	david.reeves@baneequipment.com
3/9/2012	Gibsonburg, OH	Widmer and Associates	419-637-4094	mliskai@widmerassoc.com
3/13/2012	Harlan, IA	HTS	800-741-3305	GPSInfo@htsag.com
3/13/2012	Attica, OH	Sunrise Coop	419-683-7340	tomcook@sunriseco-op.com
3/13/2012	Maddock, ND	Precision Ag Results	701-739-2424	kevinm.par@gmail.com
3/14/2012	Ames, IA	HTS	800-741-3305	GPSInfo@htsag.com
3/14/2012	Troy, OH	Allied Environmental Group	937-306-1044	dwical@alliedenviro.com
3/14/2012	Aberdeen, SD	Precision Ag Solutions	605-228-8078	troymckown@nvc.net
3/14/2012	Aberdeen, SD	Butler Machinery	605-226-5039	alan_woytassek@butler-machinery.com
3/15/2012	DeWitt, IA	Park Farms	800-872-3040	kphofer@parkfarmscomputer.com
3/15/2012	Hagerstown, IN	Harvest Land Coop	765-969-5375	reed@harvestlandcoop.com
3/15/2012	Sioux Falls, SD	Butler Machinery	605-226-5039	alan_woytassek@butler-machinery.com
3/16/2012	Cedar Rapids, IA	Crop Tech Services	319-848-7424	daveg@crop-tech.com

SMS Basic Full Day Training

Training Date	Location	Type	Contact	Organizer
2/13/2012	Indianapolis, IN	SMS Basic	515-232-5363 ext 1	Ag Leader
2/16/2012	Remington, IN	SMS Basic	219-608-1765	Peterson Ag Service
2/24/2012	Kewanee, IL	SMS Basic	309-944-7309 westent@geneseo.net	West Enterprises
2/28/2012	Topeka, KS	SMS Basic	515-232-5363 ext 1	Ag Leader
3/1/2012	Columbia, MO	SMS Basic	515-232-5363 ext 1	Ag Leader
3/20/2012	Madison, WI	SMS Basic	515-232-5363 ext 1	Ag Leader
3/22/2012	Owatonna, MN	SMS Basic	515-232-5363 ext 1	Ag Leader
3/26/2012	Fargo, ND	SMS Basic	515-232-5363 ext 1	Ag Leader
3/29/2012	Sioux Falls, SD	SMS Basic	515-232-5363 ext 1	Ag Leader
4/4/2012	Ames, IA	SMS Basic	515-232-5363 ext 1	Ag Leader

SMS Advanced Full Day Training

Training Date	Location	Type	Contact	Organizer
2/14/2012	Indianapolis, IN	SMS Advanced	515-232-5363 ext 1	Ag Leader
3/2/2012	Kewanee, IL	SMS Advanced	309-944-7309 westent@geneseo.net	West Enterprises
4/5/2012	Ames, IA	SMS Advanced	515-232-5363 ext 1	Ag Leader

SMS Mobile Training

Training Date	Location	Type	Contact	Organizer
2/13/2012	Indianapolis, IN	SMS Mobile	515-232-5363 ext 1	Ag Leader
2/14/2012	Indianapolis, IN	SMS Mobile	515-232-5363 ext 1	Ag Leader
2/28/2012	Topeka, KS	SMS Mobile	515-232-5363 ext 1	Ag Leader
3/1/2012	Columbia, MO	SMS Mobile	515-232-5363 ext 1	Ag Leader
3/20/2012	Madison, WI	SMS Mobile	515-232-5363 ext 1	Ag Leader
3/22/2012	Owatonna, MN	SMS Mobile	515-232-5363 ext 1	Ag Leader
3/26/2012	Fargo, ND	SMS Mobile	515-232-5363 ext 1	Ag Leader
3/29/2012	Sioux Falls, SD	SMS Mobile	515-232-5363 ext 1	Ag Leader
4/4/2012	Ames, IA	SMS Mobile	515-232-5363 ext 1	Ag Leader
4/5/2012	Ames, IA	SMS Mobile	515-232-5363 ext 1	Ag Leader

Online Training

Training Date	Type	Call to Attend	Organizer
Per Request	Training on any topic	1-800-741-3305 gpsinfo@htsag.com	Heartland Technology Solutions
2/16/2012	Creating Datasets using the Equation Based Analysis	515-232-5363 ext 1	Ag Leader
3/1/2012	Device Setup & Exporting	515-232-5363 ext 1	Ag Leader
3/8/2012	Creating Boundaries with SMS Mobile	515-232-5363 ext 1	Ag Leader
3/15/2012	Recording Coverage and General Logging with SMS Mobile	515-232-5363 ext 1	Ag Leader
3/29/2012	Crop Scouting with SMS Mobile	515-232-5363 ext 1	Ag Leader

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The Man Behind Ag Leader Technology

Ag Leader® Technology

Engineer. Business owner. Precision farming innovator. All of these describe Al Myers, president and founder of Ag Leader Technology in Ames, Iowa. Credited for the development of the first widely successful yield monitor – the centerpiece of modern-day precision ag technology – Myers' company celebrates its 20-year anniversary in 2012.

Over the past two decades, many have embraced his technology and understand how its use helps farmers all over the globe improve management practices, make better decisions, conserve resources and protect the environment. But there's a lot more to this precision pioneer than meets the eye. To know who he is at heart will give you a true perspective of how his company has grown to be one of the most well-respected and innovative agricultural institutions in the industry.

Hands On

Al Myers never wanted anything more than to work with his hands. As a young child growing up on his family's eastern Illinois farm, you could find him rummaging around in his father's shop looking for pieces and parts – what most would call 'junk'—that he could use to build things. For the majority of his childhood, it was his plan to farm, or perhaps find a job in ag or construction machinery, and spend his winters in the shop tinkering around with whatever side project tickled his fancy. It wasn't until high school that his dream took an unexpected turn.

"I remember it was my high school vocational agriculture teacher that introduced me to the idea of possibly becoming an engineer," Myers recalls. "He was able to see that I was technically inclined, and one day after class he pulled me aside and suggested that I should look into engineering as a profession."

Myers' chance to follow his teacher's advice came his senior year when he and other students in his high school were given the opportunity to attend an engineering career day hosted by the University of Illinois. Myers went from booth to booth learning about the different areas of engineering, and machinery engineering was of particular interest. "I was completely fascinated," Myers remembers. After graduation, he enrolled in the School of Engineering and it only took one semester to know that he had found his true passion – a passion that still burns today.

Valuable Lessons

But turning his dream into a reality did not come easily. "I had to work really hard in college to get good grades," Myers said. "Other students earned the same grades without as much work. I always envied those people," he jokes. Myers learned early in his college career that he'd have to work twice as hard as his peers to stay on top. Competing with students from much larger high schools where more advanced curriculum was offered, Myers worried he might not make the grades he needed to stay in college. "Chemistry and Physics were considered the engineering 'flunk out' courses," Myers explains. "The first chemistry test I took, I was convinced I had failed. And sure enough, when I checked the scores, I had received a 28%. However, looking at all the other scores that were posted, 28% was the highest score in the class!" That's when Myers learned a lesson that he'd take with him for the rest of his life: all it takes is hard work to accomplish your goals.

Something Big

When Myers reflects back on his life, he admits he's always been motivated to do something big. Growing up in the muscle car era of the late '60s, one of his favorite hobbies was deconstructing a car and putting it back together again even better than before. There's never been a time in his life where he wasn't dreaming and creating. "I built my own house. A few years later, I built the yield monitor, and then my own company," Myers said. "I'm not happy unless I'm tackling some great challenge."

And it will be exciting to see what he comes up with next.

This is the first in a continuing series about the development of Ag Leader Technology. Check out the next issue of Insights Magazine for information about the past, present and future growth of the company.

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