FROM THE EDITORS OF CropLife

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# DISCOVERING THE SECRETS OF THE SOIL

Cory Willness and his team at CropPro Consulting focus on measuring and modeling soil properties as a foundation for agronomy recommendations.

> ALSO INSIDE: Innovation Series Workshop: 5 Key Takeaways p 22

The 'Shiny Object Syndrome' p. 28

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#### UPFRONT

## Ag Tech: "No Risk It, No Biscuit"

UMMERTIME IS A GREAT OPPORTUNITY to catch up on all those new books that come out during the busy season.

Which brings me to one of my favorite reads from this past summer — and it's a particularly timely one, what with NFL Opening Weekend having just wrapped as I type this from 0-1 Cleveland Browns country...

Arizona Cardinals coach Bruce Arians' 2017 literary debut "The Quarterback Whisperer: How to Build an Elite NFL Quarterback" proved for me a fascinating recounting of Arians various dalliances with quarterbacking greatness (Peyton Manning, Andrew Luck, etc.). The book really makes one think about why and how these elite, alpha dog athletes succeed where others with similar traits fall short.



BY MATTHEW GRASSI SENIOR EDITOR MJGrassi@ meistermedia.com

It turns out a big part of that success is Arians, the kid who grew up poor in rural West Virginia, with an early penchant for drinking paint (you'll have to read the book for more on that one).

Throughout the book he continually references his main life lesson from 40 years in the business:

#### "No Risk it, No Biscuit."

By this, coach simply means that sometimes taking a big (but calculated) risk is the only way forward. When Arizona first hired Arians, maintaining the status quo would have meant continuing to throw late-round draft picks at raw college quarterback prospects in hopes of one finally sticking. Well, always a bit of a rebel, Arians had other plans, so he decided to 'risk it' by bringing in oft-injured veteran Oakland Raiders cast-off Carson Palmer.

How'd that risk turn out? Palmer has posted the three best seasons of his career under Arians out in the desert, and the Cardinals have gone from NFC West doormat to a respectable 41-22 over his four seasons at the helm.

Coach Arians' clever turn of phrase brings to mind the latest bit of news to shake up ag tech: John Deere purchasing Blue River Technology for \$305 million.

Yes, you read that right, the biggest equipment manufacturer in the world paid well over a quarter billion dollars for a company with one commercialized product in lettuce, and no clear date on when its row crop See & Spray machine will be market-ready.

But let's be Coach Arians-real for a second.

Deere saw an opportunity to acquire promising capabilities which itself didn't already possess. On the ag tech show circuit speakers constantly stress not trying to be everything to everyone, that having **success in this space is a lot about finding the right partners so you don't have to develop every single piece of technology yourself.** 

And that's precisely what Deere did with this deal (maybe with a bit of a nod, wink, and tip of the cap to AGCO and its July acquisition of Precision Planting).

Is See & Spray the future of application in row crop? That much still remains to be seen. But, if it turns out guys like Blue River founder Jorge Heraud were indeed correct about the vast potential of this application of machine learning then well, I doubt Moline will miss that quarter-billion dollars all that much.

# FROM THE EDITORS OF **CropLife**









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#### COVER STORY DISCOVERING THE SECRETS IN THE SOIL

CropPro Consulting combines multiple soil characteristics in its agronomic recommendations, using a proprietary scanning system.

Cover photo: Erin Lindbloom



**POSITIONING** 

TOPICS AND TRENDS IN PRECISION AGRICULTURE

### Data's Influence Still Not Significant

The 2017 *CropLife*<sup>®</sup> magazine/ Purdue University Retail Precision Adoption Survey conducted this spring dug deeper into data utilization issues. Specifically, it asked about the influence of data on crop management decisions.

Top perfoming application practices included phosphorus and potassium and nitrogen, along with liming (see chart at right). But none of the practices exceeded 11% as a "major influence" on crop managment decisions, indicating we have a long way to go to get to fully datadriven precision.



## TOP 10 MOST VIEWED ARTICLES ON PRECISIONAG.COM

(August 16 - September 18, 2017)

#### 1. 17 Field Scouting Apps For Precision Agriculture

- 2. Agribusinesses Launch FieldReveal Platform for Local Agronomists
- 3. The Tipping Point for Machine Learning in Agriculture
- 4. Blue River, Deere Deal Will Accelerate Farm Robot Innovation
- 5. Agtech Issues: The Shiny Object Syndrome
- 6. Deere To Acquire Blue River Technology
- 7. Climate Adds New Features, Restructures FieldView Pricing
- 8. Combining Ag and Information Technology Is a Promising Career Path
- 9. Data Aggregation Service Goes Nationwide
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# Generating Value From Boots-on-the-Ground Precision

BY LISA HEACOX Iheacox@meistermedia.com

HE flaghip product from CropPro Consulting, Naicam, Saskatchewan, may sound like part of a high stakes hostage situation. But SWAT (Soil, Water, and Topography) MAPS have a tamer, though still valuable, goal. They use key field information to create zone-based maps for variable rate application and seed application.

"In the North American market there really isn't anyone doing it the way we do it," says Willness. "I don't think we'd be having this conversation if we didn't have these maps."

Trademarked and patented, the maps CropPro generates start at the "beginning," says Willness. His team drives fields measuring — and then modeling — soil properties, water flows, and topography and how the three interact. "That gives you a better indication of what your fertilizer responses will be," he explains.

The CropPro team has covered a grueling half-million acres in western Canada to make the maps. Adding to the challenge is the fact that there are only a few months of the year when this kind of work can be done.

There are no shortcuts here. No one has figured out how to map soils from the air yet, Willness points out. Agronomists can collect soil color from remote sensing — but that in itself isn't good enough, he says. "It doesn't give you textures or show where the salinity is."

#### **BUILDING A BUSINESS**

Willness has always had a passion for agronomy. After getting his degree, he was hired with a local ag retailer in eastern Saskatchewan in 1996. He also spent four years as an agronomist on the Saskatchewan VRT Project with a group of leading-edge farmers in the Melfort area that were using variable rate technology.

After building a reputation in the region for his work, he started his own independent consulting business in 2003. The start-up offered agronomy services that included weed, insect, and disease scouting as well as basic soil sampling and fertility planning. It launched with 25,000 acres and 10 customers.

While Willness was a veteran in VR technology, he wanted CropPro Consulting's brand to be just right before he introduced it to growers.

"It was always my calling to find the right methods — mapping, putting all the pieces together — to offer a VR service that worked for us. So Canadian consultant Cory Willness uses hard work, common sense and exclusive modeling to offer profitable precision agriculture services.



"I don't think we'd be having this conversation if we didn't have these maps."



Above, the two maps on left are the two layers collected on the field — RTK elevation with flow accumulations showing water flows, and electrical conductivity showing the soil properties layer. Through CropPro's proprietary process, all the information is gathered to create one single map of 10 zones, represented in the SWAT MAPS soil potential map on the far right.

I spent a lot of time using different technologies and doing lots of trials before we commercially released our first VR service in 2008.

"That year we bought the first Veris sold into Saskatchewan. We hired staff, bought a lot of equipment and took a lot of training. That's when we developed our SWAT MAPS — it was all agronomy up until 2008. The maps had very, very good uptake and every year since it's been growing."

#### VALUE OF MAPS

One reason Willness says the maps are so good is because they're stable. A field never changes, he points out. There will always be hills with water shedding, areas with the lowest organic matter areas, and depressions where water collects and salinity is a problem.

"Based on that, if growers want to fertilize for a dry year, they can. In wet areas that often have flooding and accumulate nitrogen and sulfur — they can put on nitrogen stabilizers and increase seed rates. We have the only mapping process that separates soil into those



Key CropPro Consulting employees include (left) Stu Hassall, SWAT BOX electronics component design engineer and Derek Massey, a partner in the software company and head of software development.

#### types of zones."

At presstime, Willness was about to start soil testing in southern Saskatchewan's dryland. He's guessing a fair amount of the nitrogen that growers put on this season is still going to be sitting in the hills there. Next year they can specifically manage the dry areas accordingly.

With variable rate work it can be tricky to nail down a return on investment, he admits.

"There's going to be a percentage of the time where it doesn't pay to put on fertilizer, much less put it on variablerate. But these days a 10,000-acre farm is spending \$1 million on fertilizer. Our annual cost for a farm like that would be around \$3 per acre to do soil testing, prescriptions and two trips to the field to see how things are looking. That \$30,000 bill is only 3% of the budget when a grower is spending \$1 million.

"We position it more as it's just every field being micromanaged every year with the fertility plan that customers believe in — that their fertility dollars are being spent in the right spots."

#### PROVING THE PRODUCT

Typically growers will try CropPro's SWAT systems on 500 or 1,000 acres, in the spring or fall, before deciding to use them on a whole farm. Trial fields are mapped and sampled and the firm gives prospective clients the new prescriptions. After one season using them, farmers make a decision.

Some clients who have done their homework, who have tried other methods and are dissatisfied, or who have talked to other growers using CropPro's modeling for years will just sign on, no "tire-kicking" needed.

Jeff Prosko, co-owner of Prosko Farms, Rose Valley, SK, says he "tried them all" — a bunch of other area consultants and retailers before turning to CropPro for agronomic and mapping services in 2008. Every canola and oat field his family farms has been SWAT-mapped, to the tune of 21,000 acres.

Highly variable, his land is moderately rolling, and clay, loam and sand soil can

all exist in one field. Some new portions of fields, cleared in just the last five years, run alongside ground that's been farmed for 60 years.

Prosko has long been an avid user of variable rate fertilization. "With VR we're putting the fertilizer where it should be, where the soils are depleted," he says. "Where they're not depleted, we're cutting back instead of over-applying and just wasting money. We're not spending less overall on fertilizer, but we're putting it where it should be, growing more bushels."

He's also doing variable-rate seeding. The farm's high salinity areas make it difficult to get a crop established, so he's using higher seed rates in some areas to try and get a better stands there. He knows overall plant survival will be lowest in these extreme soils due to wetness, compaction and salt. Another goal here is to drive root growth to open up the soil and channel the salinity downward.

Prosko has also used SWAT MAPS for drainage planning. Next up is to use them to variable-rate fungicides, correct



At left is CropPro Consulting's SWAT BOX in action, pulled behind an anhydrous rig.

### SWAT BOX Debuts

ELECTRICAL conductivity (EC) is one soil variable plugged in to CropPro Consulting's SWAT MAPS. This key trait correlates with soil properties that affect crop productivity, including soil texture, cation exchange capacity, drainage conditions, organic matter level, salinity, and subsoil characteristics. It must be measured in each zone in a field for map-making – no small undertaking. To make the job easier, CropPro staff have developed the patent-pending SWAT BOX, ag's first autonomous EC mapping unit.

Developed in just the last year, the Box is towed behind growers' equipment, while they make field passes for other tasks. It records EC data and uploads it to CropPro's servers as it travels, then to consultants' mobile devices as needed. Clients only have to provide a power source.

CropPro Owner Cory Willness says farmers appreciate his firm's efforts to scale collection of EC data, so there are fewer labor and fuel-intensive trips over fields. Making each pass count is especially valuable in Saskatchewan's unpredictable weather and field conditions.

"We're trying to create a whole fleet of these so we don't have to run around with trucks and people," Willness explains.

CropPro is now working on SWAT BOX Version 2.

soil phosphate levels and adjust micronutrients, including cooper, boron and zinc. And he's just getting in to variable-rating nitrogen stabilizers to help fix soils with high potential for nutrient loss.

Prosko and his family also run a small independent retail operation that offers a full line of products and services, including seed, chemicals, anhydrous, custom application, and a couple of helicopters to do aerial spraying. While he has agronomists on staff, he doesn't feel they compete with CropPro.

"We encourage farmers that want a full-on VR program to go to CropPro because we feel they're superior on that end," he says. "We're not going to reinvent the wheel when there's a fantastic system with Cory and his staff right here. We work together.

"We also enjoy working with clients of CropPro in our retail because we feel confident that they're getting good recommendations when they come to us looking for inputs. We probably don't have to worry about those guys as much."

#### SEEDING EXPERTISE

Willness say his team has been playing with variable rate seeding since 2008. In the past, they judged fields' capabilities by simply looking at them, deciding which areas could use more or less seed based on their "boots on the ground" in the spring. Then in 2012 they undertook a massive data collection project, surveying hundreds of fields by zone, taking photos and quantifying seed performance by looking at plant stands, then creating zones aggregating the results and correlating them with other SWAT MAP layers.

CropPro now has six years of photos and data to guide seed decisions. This information layer has been used most for advice on extreme areas that establish poorly — especially hills that are "lumpy or sandier or drier" or in depressions where soils are wetter, packed harder or have salinity issues.

The company has done variable rate variety recommendations as well for canola. "That technology matches perfectly to what we do because we're trying to find varieties that are more tolerant to drought or moisture stress and plant them in those specific parts of the field," Willness says. "That totally matches our mapping processes."

Colin Rosengren, co-owner of Rosengren Farms, Midale, SK, takes variable varieties to the next level — actually changing up different crops in his fields based on CropPro's SWAT MAPS. At presstime he was harvesting intercropped pea/canola/lentil fields. He had identified which zones were most suited to the needs of each of the three crops.

He's also doing variable rate fertilizer. The practice has worked very well in his operation, especially on monoculture crops. One example: malt barley. "Since we started with the CropPro program, we've hit malt, and the quality has been exceptional every year," he says. "This year in the drought, our protein was 13 again, and our yields are as good or better than neighboring fields. Our proteins are much more in spec because we're not applying nitrogen in the spots that just don't have that yield potential — so we're not getting those protein spikes. We're getting a much more uniform product and quality."

#### CONTRASTING APPROACHES

Rosengren notes that in his area most of the companies touting their mapping and variable rate programs are using infrared and other methods to create zones in fields. "They don't have the same logic that SWAT MAPS do," he says.

Most people want to start with the end point — satellite imagery and yield maps — which are measuring the crops' response to things in the field, adds Willness. They don't show the reasons why yields are high or low, whether an area is yielding low because dryness, bugs, flooding, or salinity. He says they can't really guide growers on fertilization and other inputs.

Willness does use some imagery to create yield potential maps. "If you can pull 10 years of images and they're very consistent, you have a nice correlation from year to year, then you can confidently nail down what your yield potentials are in various areas of the field.

### Agronomy Software Made Easy

IN 2003 there just weren't any software programs around to manage a crop consulting business, says Cory Willness, owner of CropPro Consulting. It was very challenging to send growers field information — back then most communication was done via pen and paper, faxing and possibly e-mail. So he and now-partner Derek Massey created their own company and developed software called Crop Records.

The agronomy system allows growers to log field work including spraying, seeding, fertilizer applications, soil and tissue tests, and other farm notes and share it with trusted advisers.

Consultants pay for the software to interface with their grower customers on weed, insect, and disease scouting and recommendations. The app is free to farmers. They can download the app to their smartphones on both IOS and Android platforms and operate the desktop version on Windows.

"Now 95% of what we do is two-way communication through the app," says Willness. "We can send spray recommendations, and growers can hit 'done' and sync that they did the jobs." It's made managing the farm's agronomy and the interaction among scout/agronomist/farmer/staff seamless.

Though the software primarily started as an agronomy program, it's now developing into a variable-rate system where users can view maps and view zone tests on their devices as well, he says.

"But up here, 50% of the time there's no relationship from year to year. It's like there are so many wet years and dry years and so many things affecting the crops all the time, it always looks different. It's not a consistent way to say what the yield potentials are."

Going forward, CropPro Consulting's number-one project is to scale up SWAT MAPS production. "I think we've got a system we like now," says Willness. "In the next couple years we expect to go to the western Canada market with it. We're focused on our agronomy services and VR services. Business as usual is labor intensive." The company currently has a staff of 20, all passionate about precision ag and what they do, says Willness. He gives them the credit for his firm's advances in products, services, and technology. "Our staff is our No. 1 asset," says Willness.

Grower Rosengren has seen the CropPro team in action. "They've been hiring the best and the brightest from universities, so that's made them a really strong organization. Cory has a great team because of the way he is and how he leads and what he's done. It's an attractive place, and he's been able get the best."



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## SPONSOR PROFILE: SIMPAS



RICK RICE Director, Application Technology for AMVAC Chemical Corporation.





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Rick Rice is the Director, Application Technology for AMVAC Chemical Corporation. He's responsible for SmartBox<sup>®</sup> commercial operations and he directs the SIMPAS<sup>™</sup> development team. SIMPAS, the Smart, Integrated, Multi-product, Prescriptive Application System will make it easy for farmers to practice 4R's stewardship with at-planting crop protection chemicals. By utilizing prescriptions to precisely apply fungicides, insecticides, micronutrients and nematicides, only to geo-specific areas of need; SIMPAS will enable maximum agronomic performance with minimum environmental exposure.

Rick gained extensive experience in the seed, chemical, and traits business with Monsanto, Delta & Pine Land, AgrEvo, and Elanco, and in the area of spatial yield data analysis while working as technology director for AgVeritas during a joint assignment with Plant Health Care, plc and XS, Inc.

Rick will provide an update on development progress and ultimate commercialization plans for SIMPAS application equipment and technology.

# Inside California Irrigation: Winters Farming

#### Farm manager Alex Bergwerff manages a multi-million dollar drip irrigation scheduling and control system in his Central Valley almond groves.

BY MATTHEW J. GRASSI mjgrassi@meistermedia.com

s many of us already know, almonds tend to get a bad rap for their water-use efficiency — or some would argue, lack thereof — among specialty crops.

The fact that over 82% of the world supply of almonds are grown in perennially water-stressed California certainly doesn't help much. But what tends to get lost in all the mainstream buzz around how much of the water supply these tasty little nuts consume are the efforts of many progressive growers around the Golden State's Central Valley to more efficiently manage moisture.

Alex Bergwerff, a farm manager for Winters Farming in Manteca, takes the reins on that front, and with a recent multi-million dollar investment in a full-suite Ranch Systems drip irrigation monitoring and control system, as well as a new catch reservoir, the operation is taking water management to a whole new level.

"We can't really rely on the irrigation districts, and we don't want to dig a bunch of new wells because everybody is cracking down on that, too," explains Bergwerff, a Fresno State ag economics graduate. "So we dug a pond over there so we could fill it with surface water and just retain it for two or three weeks and



Winters Farming, Inc., farm manager Alex Bergwerff (left) and Ranch Systems marketing and business development manager Hylon Kaufmann in Manteca, CA, back in March. fill it up a little bit at a time, and we can irrigate every day. And once we put this all in we needed someone to monitor everything, so we put in the Ranch Systems stuff."

Bergwerff and crew started by breaking its almond groves into 45-acre blocks, installing drip lines with pressure transducers that transmit data back through the Ranch Systems app, as well as the typical control structures, pumps, and soil moisture probes.

All of the various sensors stations send data via radio signal back to what Bergwerff refers to as "the brain" of the system, which has a cellular uplink to transmit all the data back to Ranch Systems, where it is normalized and fed back into the mobile app on Alex's device.

"The software is set up to separate the data by depth," he says. "It shows you online in a graph, and you can see as the moisture is

moving through the soil profile, you can see the lines start to spike and you can see how long it takes to infiltrate down through each level, or even if you're getting deep moisture. Especially when we're fertilizing, we don't want to get moisture all the way down into that lowest profile."

Now, instead of going by the age-old practice of irrigating once a week for 24-36 hours at a time, Bergwerff can leverage data to make a more informed decision, and it's certainly changed the way he waters.

"We do it by hours (now)," he explains. "Last year at the beginning of the season when the trees weren't fully awake yet we were doing 4 or 5 hour shots (of



#### HELPFUL PHONE APP

And Bergwerff, who closely straddles the line between Millennial and something known as a "Xennial", can visualize and manipulate the system from his iPhone with Ranch System's proprietary mobile app.

"I have it setup so it has the soil moisture data streaming from each probe in each block,", he says. "Then I have our One of Bergwerff's in-field weather stations, and Ranch Systems' radio control module. In this image you can see drip irrigation tape recently installed in this relatively young almond grove.

rain totals, dew point, humidity, the temperature for frost this time of year, and the pressure transducers for each drip line. So when they're running, you'll actually see the actual PSI show up (in the app).

Bergwerff also has a couple models he is running, including evapotranspiration (ET) "Since we have a weather station I can see ET for this exact ranch."

Hylon Kaufmann, marketing and business development manager at Ranch Systems, introduced us to Alex as part of our 2017 California Ag Tech Tour. "Some of these growers

like Alex are making huge investments in irrigation control and monitoring, with almost no immediate return-on-investment," she marvels. "This investment probably won't be paid off for seven years — that's almost like trying to bring a new crop protection product to market."

"Eventually it will pay for itself, but it just takes years to do it," Bergwerff agrees. "The trees look healthier, they're happier and throughout the growing season you don't get the droop that you'd get when you're putting on 24 hours of water."

Paired with fertilizers and other inputs, he says they are getting 2,500-4,000 pound crops out of these trees with improved water use efficiency.

# CTIC 2017 Conservation in Action Tour **Precision Takeaways**

SEPTEMBER'S CONSERVATION IN ACTION TOUR IN WEST LAFEYETTE, IN, SHOWCASED GROWERS ADOPTING TECHNOLOGY AND CONSERVATION PRACTICES IN TANDEM...

BY MATTHEW J. GRASSI mjgrassi@meistermedia.com

EING in ag media now for just over half a decade, I feel like I've done more than my fair share of farm tours.

You know the type.

Typically uber-long days and hot weather make for an exhausting, but often informative, ordeal.

Based out of West Lafeyette, IN, the Conservation Technology Information Center's (CTIC) annual Conservation in Action Tour is one farm tour I always look forward to, for a number of reasons. Firstly, the tour showcases the best of the best in growers embracing conservation practices. These are high-level, progressive farmers that seemingly don't blink an eye when it comes to investing in new technology and practices, and you can tell how proud these producers are of their operations.

On top of that, the makeup of the group is top-notch as well. Where else are you going to see EPA regulators stomping around fields of alfalfa, or someone from Environmental Defense Fund (EDF) crouching down into soil pits alongside Monsanto sales reps? It's as diverse a group as you'll likely find in agriculture, and we always seem to meet a new interesting face or two that makes it into the magazine.

This year's adventure in all things conservation agriculture was held in CTICs' backyard, with the tour launching from the red brick-adorned Purdue University campus and spilling out into the Central Indiana countryside.

Here's a few precision-related tidbits and takeaways from the tour:

#### **TOUR STOP #1:**

PURDUE DAIRY FARM, WEST LAFEYETTE, IN The day's first stop was the nearby Purdue Dairy Farm. Precision-wise, the 170 head dairy farm uses an ankle bracelet-deployed, Internet of Cows sensor network on each member of the herd to track daily metrics on their movements — like whether they are

metrics on their movements — like whether they are eating together as a group or how far they get around the paddock each week — that help them make decisions to manage the health of the herd.





Katie Flahive

Steve Wallpe

# Conservatio

#### TOUR STOP #2:

MULLER FARMS, OXFORD, IN Tim and Clayton Muller invested heavily (along with some NRCS funding) into an extensive water monitoring project that allows them to slow or fully stop nutrient-rich moisture from running off their fields. The result? In-season run-off from their fields routinely meets state drinking water standards for nitrates.

Additionally, Betsy Bower, sales agronomist with Ceres Solutions out of nearby Templeton, IN, was featured as part of a panel discussion during lunch. I asked for her thoughts on how ag service providers can embrace their role as land stewards.

"The business model is, if that's what's right for the customer and that's the direction that we need to go as a whole, then that's the direction we go," Bower says. "It's been Ceres' philosophy for the longest time that we always do the right thing for the customer. If what we need to do is concentrate on conservation and better nutrient management practice, we can make that happen. It's about providing value for years to come."

#### **TOUR STOP #3:**

#### DESUTTER FARMS, ATTICA, IN

Dan DeSutter has enjoyed a little national celebrity when it comes to farmers leading the way in conservation agriculture, and it's easy to see why. Everything he does on his operations is focused on soil health and building more organic

matter.

My main takeaway from visiting DeSutter's dairy cow and organic alfalfa farm was his reliance on using a Plant Nutrient Density metric to make better fertilization decisions. When correlated and georeferenced to end-of-year yield (for a basic idea on how much that year's crop removed from the soil) on each management zone, DeSutter uses the data layer

to keep his soils stocked with microbes, nutrients, and a solid cation exchange activity level all year round.

#### TOUR STOP #4: WILDCAT VALLEY FARMS,

LAFEYETTE, IN

Josh Cox is another Indiana corn and soybean grower - with a background in soil science - that is obsessed (his words) with soil organic matter. "Organic matter is the basis of all production," he told the group when discussing his efforts to interseed cover crops in soybeans, a practice he says "harnesses more sun and puts more carbon back in the soil."

Cox also raved about his recent investment in Yield Center 360 Y-Drops for





in-crop nitrogen application in corn. He purchased the new application system in 2015, right in time for Indiana's wettest May and June on record. "We lost a lot of the N we'd put on in the spring, but with the Y-Drops we were able to go in and supplement the crops at V10 with some additional nitrogen, and the yield bump basically paid for my Case IH Patriot 3330 sprayer."

# Innovation Series: 5 KEY TAKEAWAYS

The PrecisionAg Professional<sup>®</sup> Innovation Series served up a treasure trove of ideas for creating value for farmers and improving your precision offerings.

BY PAUL SCHRIMPF pschrimpf@meistermedia.com

or most of the two decades that precision technologies have existed and evolved in agriculture, the industry has struggled to help farmers ingest these technologies in ways that are practical and profitable. The vast array of products and practices have made the trusted advisor an even more important player as adopting technology becomes an increasing necessity.

The struggle for value creation was at the core of the most recent *PrecisionAg*® *Professional* Innovation Series event, held this past August in Champaign, IL. The theme, "Capturing Value In Your Precision Business," attracted some 100 service providers, consultants and manufacturers interested in sharing success stories and exchanging ideas about how precision programs can be designed and developed to benefit both the precision business overall and the farmercustomer.

In this article, we share some key takeaways from the event's various speakers and panelists.

#### **1** FOUR ATTRIBUTES OF GOOD FARMERS

Jeremy Wilson, precision expert and Technology Specialist at CropIMS, an Illinois crop consulting operation, delivered the opening keynote focused on the struggle to deliver value. He opened the presentation with what he considers the four attributes of a good farmer ... that is, a farmer who's more likely to be open

#### THIS SPACE CAN ALSO BE USED FOR MORE EM-PHASIS

to considering scaling up their precision technology use.

"First, it has to be someone who understands continual improvement," said Wilson. "Who are the farmers who are really acting on data in a way the makes their farm operate more efficiently. Second, it's someone who strives to extract value out of every acre of their land. Third, it's someone who knows more about their acre than their competitors know about their acre."

"Last, and most important, it's someone who can produce a profit from the worst acre in the county," said Wilson, who also helps run his father's central Illinois farm. "That is a closer representation of how I farm. This is what I live



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#### every single day. I don't have the worst acre in the county or the state, but I do have variable acres and I do different things on them if it will bring value. It takes an understanding of what those differences are and how can I turn a profit on that, and I need help." Wilson added that getting the people and companies that make up the ag technology industry to all pull in the same direction is a critical aspect of improving precision adoption. "We can advance technology and make these four aspects of good farmers become a reality, and turn turn good farmers into farmers."

#### 2 PROGRESS, BUT STILL MILES TO GO

Bruce Erickson of Purdue University dug into the recent *CropLife®* magazine/Purdue University Retail Precision Adoption Survey to paint a picture of precision technology adoption among ag retailers and cooperatives today, and also demonstrated adoption trends over the 20 years the survey has been conducted.

Initial excitement demonstrated by robust service and product sales in the late 1990s gave way to frustration and disillusionment in the early 2000s. "We did not know quite what we were doing in terms of the site-specific part of precision agriculture, so you see a lot of up and down adoption in the charts," said Erickson. "But it's interesting that all of the practices in the sensor chart have showed and uptick in recent years (see charts at right). We are getting better at figuring out spatial and temporal variations in the field and are reacting accordingly."

Variable-rate technology shown in the second chart reveal significant upticks in adoption in almost all categories. "We never did fulfil the dream in the 1990s, but now with faster computers, telematics, cloud storage, and better and cheaper tools we can make site specific practices worl more authentically," said Erickson.

#### 3 PILLARS OF PRECISION PROGRAMS: **RESEARCH**

One of two panel discussion featured at the Innovation Series conference focused on pillars of a successful precision agriculture program, moderated

#### SITE-SPECIFIC SENSING



#### VARIABLE RATE TECHNOLOGY



by Nicholas Uilk of South Dakota State University. One pillar identified by the panel was the need for local research data — as panelist Daniel Lucas, Precision Agronomy Specialist for AgriVision Equipment Group, Hamburg, IA, put it: "Producers want local results. Typically the producer will shut down if it's not related to his field."

Panelist Jason Leary, Precision Agriculture Specialist at Crystal Valley Cooperative, Madelia, MN, added that accurate, value-rich research requires that his people are in control of all aspects of the program.

"We started on the research side with hybrid plots, then four years ago we picked up a Precision Planting dealership," he explained. Proving the benefits of the hardware became a primary focus, but getting what was needed data-wise when they relied on growers proved an impossible situation. "We found that it was hard to get good replicated data from growers, and we had to go out and get it ourselves," said Leary. "We needed to have all aspects controlled and eliminate one variable at a time."

Crystal Valley owns its own planter for research. "We've done everything from downforce to closing wheels to liquid starter, planting dates, multi-hybrid, nitrogen, and more," he said. The feedback from customers is they want as much of the real-world practices demonstrated as possible, and that putting the hardware and agronomy together in the research has more value.

All the panelists agreed that research is important, and each explained their

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approach to developing and communicating how they handle their research program. Panelist Brent Weisenburger, Precision Ag Manager at Wheat Growers in Aberdeen, SD, which sells both agronomy services and precision hardware, shared the cooperative's approach to research.

"We have a Precision Innovation plot that allows us to test out the products in the market that can bring value to the farm," said Weisenburger. "Should we be spending \$300 on a furrow jet or should we be spending \$50 on a Keeton seed firmer? There are multiple ways to put starter fertilizer out there — is that \$300 going to bring a return on investment per acre?

Wheat Growers also maintains relationships with farmer-customers who provide whole farms for research. "One of our producers has a completely decked-out 16-row corn planter, and he is running furrow jets on one half of his planter and Totally Tubular starter fertilizer products on the other half. We're looking forward to weighing up the ROI on that test," said Weisenburger. On the soybean side, they have a whole farm phosphorus in-furrow test using furrow jets.

One interesting twist on research is a yield guarantee program on a foliar micronutrient package, where refunds are offered for poor performance. "The critical thing is you need good quality as-applied data or it won't work," said Weisenburger. They use My John Deere and Climate Drives as well as other systems to retrieve the data. But the main point is, without the technology to report the data accurately the program would not be effective.

#### 4 PILLARS OF PRECISION PROGRAMS: START EARLY ON RECRUITING

Attracting and retaining top talent was a priority for all the panelists, but AgriVision's Dan Lucas started earlier than most, with a recruitment program at the high school level.

"We've formed a relationship with a local university, and we put together what we call a Precision Ag Academy," he explained. "We are having juniors and seniors in high school prepare an application similar to a college application to attend the Academy."

It's constructed as a three-day event where students are taken through all the steps and facets of precision agriculture, while getting also getting them to experience university life and stay in the dorms.

"We keep track of the individuals that we feel are a good fit for the dealership, and as they decide if they want to go to the technical school or to university we offer them scholarships to help pay for it," said Lucas. "But they must agree to work for us in the summer time as an intern."

Those who accept the offer will get exposed to work in each of the store. "It has been an effective way to find individuals with the right aptitude and work ethic, and today we do not have a shortage of qualified candidates at the dealership," added Lucas.

#### 5 PILLARS OF VALUE: CREATING A DATA STRATEGY

Dr. John Fulton of The Ohio State University hosted a second panel of service providers focused on ideas for maximizing precision offerings. Opening the discussion was one of the key pillars of value: creating a digital strategy. "Until we get growers to get organized about data, it's a very heavy lift to get that data in a position where you can do more advanced activities," noted Fulton at the onset of the panel.

Panelist Amy Winstead of Agri-AFC in Alabama noted that the wide geography and crop base it covers requires a digital strategy that is customized to individual producers. "We have found that we really have to customize so we do a little bit of everything," said Winstead. "Obviously, soil sampling is a huge foundation for us because we don't have availability to a lot of other things common in the Midwest. For example, there's no yield monitor in peanuts, and in cotton the data on yield is sketchy at best.

"Our strategy is to customize data, and wade through the decisions with a program that suits them, focused on what that grower wants to do. Really asking what they want achieve, what their view of success is, and what is their view on return on investment. Then we build our strategy around that,"she said.

Data collection is still an issue for

Agri-AFC, said Winstead, even with the proliferation of wireless data transfer that's available. "A struggle for us is customers thinking data is coming through their systems, only to find that no data was collected," she said.

Panelist Glenn Franzluebbers of Central Valley Cooperative in Nebraska explained that the management churn from several mergers made collaborating on and creating a digital strategy an essential element to precision success.

"We have had multiple software platforms, multiple ways of storing and backing up data, where all that data is, how data is accessed, and where it is backed up," said Franzluebbers. "So I suggest getting groups together — maybe include a few growers, too — on a committee and settle on a plan for receiving, storing and sharing data, and train everyone to ensure you are getting good data back and storing it properly. But it definitely has to be collaborative."

Panelist Dave Scheiderer of Integrated Ag Services in Ohio said it starts with the grower, who must be vested in the process. "The grower must understand that while they need to control the data, it doesn't do any good to hoard the data.

"The transition I see is we have been moving away from over the last three years is the thought that there's going to be the one great platform to handle everything has gone away," Scheiderer siad. There will be several platforms that emerge that will be designed specifically for the grower, and the grower will be in control of the data and how and who can access it and how it passes between partners and platforms. "As the value of the data increases, farmers will take more care in collecting quality data," he said.

One thing Scheiderer feltcertain about at this point: "I really think there is going to be a trusted advisor in the middle of this. That the ability to manage all this is very difficult. Not that they do not have the skill set — farmers have a hundred skillsets they are trying to manage, and it takes a special mindset to manage data. Sometimes farmers will insist on trying to do it themselves, and we usually step back and let them do it. Very often, they come back to us and become some of our best customers."

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#### Why Should a Grower use Advanced

- Must identify the limiting factor to yield
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Jeremy Wilson speaking at the 2017 Innovation Series meeting in Champaign, IL

Service providers are missing the boat if they're not actively talking about precision services and data management with their farmercustomers.

# Growers and Precision Services: **Opportunities Lost**

## BY JEREMY WILSON jwilson@cropims.com

S I write this, it's late August. And the past couple days have been spent meeting with growers, talking about their operations and the processes they go through each season to do what they do on the farm.

Reflecting on the content of these discussions, it's obvious to me that the volume of data being collected by producers that ends up either completely unused, or seriously underused, is even larger than I once thought.

As an industry, we continue the push to get growers to invest in more and more technology — technology that is capturing valuable data about what's happening in producer fields. However, it's clear to me that this data is not only being allowed to lay fallow, but the level of apathy among producers about ever being able to realize the promise these technologies are supposed to deliver is growing. That's disappointing. The best quote I heard from my week of discussions was this: "I've collected yield data for 12 years and planting data for six, but still don't think the data has brought me any value!" Service providers today have the ability to access more data than ever before to help producers make data-driven decisions. Every grower I met with was asked the same question: "If your data identified changes in your operation that could increase efficiency or increase profitability, would you make the change? "Eight out of nine growers said "YES!"

So, why is data not being used today? Reading between the lines of producer comments, and based on my own experience, these are the top four reasons:

1. Data is too difficult or complicated.

2. It takes too much time or effort to incorporate data.

3. There's no understanding of where to begin.

4. And in some cases, people aren't even sure where "their data" exists for them to get it.

Topping it all off, producers see in the agriculture press (Yes, we're guilty, too. — The Editors) all the time where massive amounts of money are changing hands in the name of bringing innovation to agriculture. But somehow, it never ever seems to impact a producer's operation to the extent it helps them, the producer to be more successful.

Someone, somewhere else it seems, is benefiting from these headline-making transactions. This adds to this apathy and feeling of helplessness so many of these producers I visited with were able to articulate.

#### WHAT'S NEXT?

So what is the future for producers and their use of data technology?

One thing is certain: producers will have many opportunities to continue to invest in new hardware and data systems in the future. These systems will likely continue to ingest increasingly large amounts of data coming from the farm. Sometimes it will be with the assistance of the producer while at other times, it will occur in spite of the producer. It's likely in the future these "systems" will, in fact, know more and more about a producer's operation, putting these "systems" in a position to generate revenue in many different ways.

Some will get better at making farm information visible to the producer. But if past experience is any guide, producers will be left to themselves to figure out what to do if anything — with what these "systems" tell them.

This recent round of visits with producers confirms one thing: there is opportunity for those who want to help producers be more successful, not only by selling a gallon, ton or bag of something that someone else manufactures, but by demonstrating real, sincere commitment to creating value for the producer by supporting their decisionmaking processes.

The service provider of tomorrow will find ways to offer more consultative-type services to growers. And I would argue that growers today have the data to begin to analyze their operations to bring greater profitability and/or efficiencies.

So, what's the first step in this process? Go talk to your growers and find those who are wanting to take a deeper look into the data they have collected. It's likely to be an interesting conversation.

Wilson is a precision agriculture expert and lead agronomist at CropIMS, an independent crop and technology consulting firm based in Illinois.



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# Ag Tech Issues: **Shiny Object Syndrome**

Satshot CEO Nathan Faleide discusses his recent experience at the 2017 Farm Progress Show.

PRECISIONAG. COM CONTRIBUTOR **GIVES HIS TAKE** ON THE CURRENT **STATE OF FARM** SHOWS AND AG **TECH PRODUCT** LAUNCHES

#### BY NATHAN FALEIDE nfaleide@gmail.com

O you remember those cartoons where someone lures someone else by placing a piece of candy, small amount of money, or breadcrumbs in a row that ends in a trap under a box propped up by a stick attached to a string?

After my visit to the Farm Progress show last week - and to be honest, other recent shows — this is the feeling I get. "Hey, come here and get this yard stick you'll never use, this hat you'll never wear, or this product you'll never utilize ..."

Ok, I'll take that yard stick every darn time, never use it, but if I need to visualize three feet, it is on the wall hanging on a nail and it's like a security blanket. To quote Metallica, "Sad but true."

This is what I call the "shiny

object syndrome", a symbiotic marketing and product development tactic used by every industry since the wheel was invented. Buy three wheels and get the fourth free! (Fast speech follows: This wheel and all wheels are subject to failure, may cause injury, death, vomiting, and at certain times desire to spin that may lead to dizziness or constipation).

It seems everyone in the news and marketing industry — which includes ag shows - are enamored with all the buzzwords that get the most attention and reaction. It is great and deceiving at the same time, and I blame no one that does it and it isn't necessarily wrong. Heck, it is the job of many at the group showcasing this article on its website



dave newby @dave newby

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# Grifters from all walks of life trying to swing you over to their side by saying anything that makes you say, "SHUT UP AND TAKE MY MONEY!"

(EDITOR'S NOTE: Hey!) that is trying to attract attention, and there are many more out there.

Grabbing attention isn't what concerns me though.

If it is useful, engaging in a positive way that actually works and helps, then awesome. What I'm seeing and don't like are offers of value and tools/services that promote the "you get this much ROI or save this much money" without much or any proof. That or the false sense of reality that this one thing will change the industry, blah blah blah. You've heard of them all I'm sure.

I get why it happens. You need to sell a product, showcase an idea, make it shine, and be better than the next, or you'll be on the curb. While this is common in many industries, agriculture is a little different than others. Take vacuums, for example, which claim: "Better suction is the essence of cleanliness." Thanks Dyson and Roomba (which by the way gets stuck on the damn bathroom rug every time and takes two hours to vacuum two rooms)! Don't get me started on robots in ag right now.

We probably have all been guilty of promoting something that is only somewhat true, but we have to catch ourselves in these instances. Sure, I've had my moments of pushing products that maybe don't interest the public much or provide as much extra value to get that certain buck. The one thing I don't do is say that it will give you this much in return by the acre exactly no matter what. I'll give examples and let them decide if they think they could do the same. For me seeing imagery everywhere throughout the world has taught me no field is the same and every farm is different — a lesson this industry needs to better understand and grasp going forward. Canned messages and promotions can be very misleading with no context and that is what

- NATHAN FALEIDE



is missing.

I don't really care what the tech is or the product or service. The answer and value of it is not in saying it makes this much per whatever and is better than this or that. It is taking your product/ service and showing the end user how to utilize it so that they can see their own value/profit/ROI. If it works like you think it does and how you've claimed, then it shouldn't be too hard to show value. The ones that push "it will make this much per acre" are promoting their product wrong and doing it to suck you in, not to show you value. It is merely a shiny object and can't easily be defined in the world of ag or specifically precision ag. Too many variables.

Now, I'm not here to say the "shiny object" mongers are hawking bad or horrible products/services, since most times they are not, but I am saying: be careful. It can backfire and hurt us all. Agriculture is in a somewhat fragile state right now and it can be really easy to follow the snake oil to grab that extra attention. The recessions and depressions in our economy have proved this. Grifters from all walks of life trying to swing you over to their side by saying anything that makes you say, "SHUT UP AND TAKE MY MONEY!"

The would-be grifters were out in force at the show, and their desperation was lurking around every corner. To quote @dave\_newby "The Farm Progress Show is where farmers with \$3 corn look at all the ways they could produce corn if it was \$5."

It was kind of sad and why I could only

be there for about 3 hours. My other colleagues at the precision ag conference the previous day said the same thing, that it's not worth the time. And for the most part, it wasn't. Not the show's fault, and not everyone was bad but still, way too much BS and miss-leading promotion.

If the agtech or precision ag industry and its cohorts are to excel and actually gain the trust of growers and the service providers that help them on a larger scale, then we all need to find the ways to not sell or promote the shininess of products, but concentrate on the extra value they bring to the table and how it can be used in a realistic way. Not some baseless situation that says it works everywhere and for everyone. It doesn't and nothing does.

Sell common sense. Show what is real and doable. Create an opportunity to show what you can actually do and provide. In other words, don't sell ice to an Eskimo even if you can. Sell them the insulation blanket or cooler that makes the igloo last longer that prevents melting and saves them ice. Really, they might just want to do what they've been doing since they like doing it that way, and do it pretty well. Provide some breathing room maybe.

Overall, let's skip the high drama shiny object approach. This industry is not the Kardashians ... and I can't believe I just used them as an example of what NOT to be in this ag industry. Yikes

By the way, anyone want my stupid Roomba?



. . .

Faleide is the CEO of Satshot, an agricultural remote sensing software system specializing in satellite imagery.

# Advancing **Precision Agriculture Education**

A new specialty designation in precision agriculture for certified crop advisers is scheduled to be ready in late summer 2018.

> BY PAUL SCHRIMPF pschrimpf@meistermedia.com

HE International Certified Crop Adviser (ICCA) Board, which oversees the Certified Crop Adviser Program, had mulled over the possibility of creating a specialty in precision agriculture for the past five years. This year, the process is finally underway, with the expectation that by next August, CCAs will be able to attain a precision agriculture specialty designation.

Discussion about creating a specialty re-ignited earlier this year among the ICCA Board, and the exploration was broadened through the conduction of a

survey of all CCAs to judge membership interest level, says Luther Smith, Director of Professional Development and Business Relations for the American Society of Agronomy.

"The precision agriculture specialty survey had the highest return rate and interest level we've had so far for specialties," noted Smith. "The survey data made it easy for the ICCA Executive Committee to reach the decision to move forward." The committee also received strong encouragement from many in the industry, including the editorial team of



Precision Ag<sup>®</sup> Professional magazine.

The process to develop a CCA specialty certification takes about 18 months from start to finish. It begins with organizing a development team of content experts from a cross section of the agricultural industry. This includes people from academia, government and the private sector, most being CCAs

> with experience in the subject matter.



Luther Smith

The development team first creates the performance objectives (POs) that define what a CCA should know to earn the specialty. Then the team uses the POs to write exam questions. Each exam question must

The exam for the specialty will be scenario based, where a group of questions will be answered based on the information given. The exam will be multiple choice.

#### MAKING THE CALL

In determining whether or not to

build a specialty, the Board first evaluates the topic as whether or not all CCAs need to know the material or if it is for a subset of CCAs - a specialty. If so, it is then added to the general program requirements. A specialty is created if there is enough anticipated interest to support it. Basic precision ag knowledge is covered by the POs for the general program but the specialty will be for CCAs who focus their work in this area requiring a deeper level of understanding and knowledge.

Currently the ICCA Program offers four specialties: Certified Professional Agronomist (CPAg); 4R Nutrient Management Specialist (4RNMS); Sustainability Specialist (SSp) and education to renew. It reinforces the lifelong learning that the program prides itself on with focused continuing education in the topical area.



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# Website Designed to Share Precision's Good News Story

The Coalition to Advance Precision Agriculture's new website is designed to expose Beltway decision makers to the benefits of precision agriculture technology.

MONG agriculture companies, the benefits of precision technology to improve stewardship, efficiency, and profitability at the farm gate are well known and appreciated.

In the insulated world of the Beltway, as they say, "not so much."

With the tide of communication efforts presenting good news stories about modern agriculture that have emerged in recent years, agriculture advocacy organizations operating in the nation's capital began discussing how to couch the "good news story" that precision technology in agriculture portrays in facilitating continuous improvement and crop production excellence.

Talks among the organizations began to take shape in 2014, leading to the creation of the Coalition to Advance Precision Agriculture (CAPA). Since that time, the coalition — which features 19 participating industry groups including the PrecisionAg<sup>®</sup> Institute — has hosted a number of events and efforts designed to talk to lawmakers about the myriad benefits of precision agriculture technology.

Most recently, CAPA announced the launch of its new Website, www. DiscoverPrecisionAg.org. Filled with informative resources developed by coalition members, the new website helps CAPA promote science-based policy decisions to advance a safe and sustainable food system, and will help to fulfill the group's mission: To facilitate communication between farm and agribusiness associations and government decisionmakers about precision agriculture, innovation, tools, and practices.

#### **BROAD SUPPORT**

Members of the coalition include a range of organizations from across the agricultural community, from grower groups to agribusiness associations working to develop the most advanced technology possible for farmers (see list in sidebar).

Daren Coppock, President & CEO of the Agricultural Retailers Association (ARA) and co-chair of CAPA, said that precision agriculture

is where many of farming's challenges and solutions come together. "The precise application of nutrients and crop protection products as well as the analysis of production variables — such as soil type, fertility, past yield, slope and other data — help generate what essentially are prescriptions for healthy and abundant crops," explained Coppock. "Agriculture today is a high-tech enterprise, and CAPA is a way to share these innovative technologies and practices with policymakers who otherwise might not know about or have access to the state of the art in farming."

The data standards facilitating organization AgGateway is also a supporter of CAPA. "From AgGateway's perspective, CAPA is an important resource, informing government and industry leaders about the essential work being done to facilitate the exchange of electronic information for precision agriculture," said AgGateway



## CAPA Member Organizations

AgGateway

Agricultural Retailers Association American Farm Bureau Federation American Farmland Trust American Seed Trade Association American Soybean Association Association of Equipment Manufacturers Council for Agricultural Science

and Technology CropLife America Field to Market Irrigation Association National Agricultural Aviation Association National Association of Wheat Growers National Cotton Council Precision Ag Institute Solutions from the Land The Fertilizer Institute President and CEO Wendy Smith. "The ability to manage data is key to the continuing success of U.S. agriculture."

Dale Moore, Executive Director of Public Policy at CAPA member American Farm Bureau Federation (AFBF) and CAPA Co-Chair, said that precision agriculture is about using just the right amount of seed, fertilizer, and crop protection for every acre we plant, a terrific message for farmers to be able to share. "The technology revolution that made that precision possible promises still more abundance and less environmental impact than ever before," he noted. "We're proud to be a part of CAPA and urge anyone with an interest in farming and sustainability to visit the coalition's new Website."

"Manufacturers of farm equipment have enthusiastically embraced technological innovation and have helped to advance precision agriculture to help make farming more efficient and sustainable than ever," stated Dennis Slater, President of the Association of Equipment Manufacturers (AEM). "We are proud to support CAPA and these new resources to raise awareness of the contributions of precision agriculture and educate policy stakeholders about the need to foster agricultural innovation."

CAPA Co-Chair Jay Vroom, CEO and President of CropLife America (CLA), added: "CLA is proud to be part of CAPA and the collective effort to communicate the importance of advancing U.S. agriculture. With a wide range of voices in the coalition, CAPA is an essential resource for decision makers and journalists looking for information on the role that technology and innovation play in agriculture. We invite everyone who is interested in the conversation on advancing farming from foodies to moms and chefs and everyone in between — to visit the new CAPA website to become more informed and help us advance precision ag!"

"The PrecisionAg Institute stands with these leading ag organizations in their efforts to share precision agriculture's good news story with our regulators and lawmakers," says Paul Schrimpf, Institute Manager.



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[DON'T THROW THAT AWAY]

## WE MIGHT NEED IT]

## **DATA:** The Long, Strange Road to Value

oric Paulman is quite a character. He's a Nebraska farmer who went off the farm into other agriculture pursuits for nearly a decade until being called back to the farm by his father in the 1980s, just as the epic farm crisis was at its apex.

A month after his return, his father passed away of a heart attack, and the farm was lost to foreclosure.

To some this might be a lightning bolt from above, suggesting the return to farming was ill-advised. But not Roric.

Piece by piece he reaquired land and expanded, and got himself back in business. But his unique experiences as farmer, a non-farmer, and a reborn farmer gave him unique perspectives on the need for

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collaboration to come up with unique solutions to the difficult challenges we face.

Irrigation efficiency and water conservation are two areas where Roric has excelled in bringing together farmers, manufacturers, regulators and other stakeholders in search of "best in breed" technology and

practices. His leadership in the development of the Nebraska Water Balance Alliance (on the Internet at nebraskawaterbalance.com for more information) is making a difference.

We spoke for a spell-binding 55 minutes recently about all the things being worked on and developed by the Alliance and its variety of partners, which he concluded with a stark comment about farm data:

"What I said on your panel in Des Moines (at the PrecisionAg<sup>®</sup> Professional Innovation Series workshop in February) was that I don't care who has my data. Everybody is in this protectionist mode ... frankly if we don't get it to some place where we can make good decisions, what good is it? In the hands of a trusted adviser it can bring value. We have got to figure out how to make that all fit ... it's a tough deal!

Roric was firmly on his soapbox and making a strong statement, but I understand his passion. By sharing data with trusted groups he's getting the value he needs.

The difficult part for us as service providers is that there's not a lot of trust out there, and expression of value is difficult. But that is the key role we must play if we are going to sustain our businesses. We must build trust relationships with growers, creating value for them with the data we collect, and do so without overpromising. If we succeed, the future is ours.

– Paul Schrimpf

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