

PivotPoint®

Spring 2018

Grower Adopts Technology That Pays Off

Optimization from Water Source to Pivot

Growers Save Time, Money with PolySpan® Pivots

Technology Solutions for Every Grower



LETTER FROM THE PRESIDENT

Have you noticed that much of today's technology is practically disposable? If your television breaks, you get a new one. If your phone stops working... well, it's probably several generations behind anyway.

At Valley, we have the opposite philosophy when it comes to your pivots and the technology you use to run them. We build to last.

That doesn't mean we're not always working to improve our machines. Of course we are! We keep engineering and producing technology that makes farming easier, more efficient and less time consuming. We also have the best-trained dealer network in the world, working to keep your pivots running at peak performance. Look around, and I'm confident you'll see 20-, 30- and even 40-year-old pivots in fields all over the country. That's because we design our technology to be easily upgradable.

In this issue of PivotPoint, you'll read about some newer technology and some that's been in the field for a while. All of it is helping your fellow growers every day in their efforts to make a good living, maintain high yields, have a family life, and maybe even sleep once in a while.

So feel free to replace that microwave or your car when it breaks down. But when you want technology and machinery that lasts, give your Valley dealer a call.

LEN ADAMS

President, Global Irrigation





Valley, PivotPoint* magazine is distributed by your local Valley dealer as a complimentary publication throughout the United States, Canada and around the world. It is published by Valmont Industries, Inc. U.S.A., Valley, Nebraska 68064. Valley is a registered trademark and a brand name, Valmont is a registered trademark and the name of Valmont Industries, Inc. U.S.A. Reproduction in whole or in part without permission of the publisher is prohibited. ©2018 Valmont Industries. All rights reserved. Printed in U.S.A. Agreement Number: 40030579.

Valmont Irrigation, 28800 Ida Street, Valley, Nebraska 68064-0358 USA Phone: 800-825-6668, email irrigation@valmont.com. Subscribe on the web at www.valleyirrigation.com. To cancel a subscription, email valleymarketing@valmont.com. Special promotional offers valid only at participating Valley dealers in U.S. and Canada



QUALITY PARTS & SERVICE LEAD TO TOP YIELDS

Germination. Emergence. Tasseling. Every crop has stages when proper irrigation is essential for the best possible yield. Keeping your pivots running is key during those times, no matter what brand or type of pivot is over the crop, and the best way to do that is with the best parts and service in the industry.

"It's all about longevity," says Kenneth Bracht, Valley Irrigation Senior Director of Global Aftermarket Parts. "Valley Genuine Parts are the premier in the industry and include our unparalleled, American-made drive trains. They come with the industry's best warranty, and irrigators can rest assured their pivots will be serviced correctly through their Valley dealer."

Valley parts are often used on other pivot brands because of their extended life, so Valley dealers are trained on all brands of pivots.

"Our Valley service providers are the best trained and most skilled in the industry," Bracht says. "They can handle service on just about anything. They are smart, good people, and they're fully invested in providing the right irrigation solutions to their customers. They're an amazing group."

Improving Efficiency Through Conversion

Growers can use Valley Genuine Parts for maintenance and longevity, but they can also change the way pivots operate. For example, changing oil hydraulic pivots to electric is relatively simple with the Valley Oil Hydraulic Conversion Package, which includes:

- Collector ring
- Tower boxes
- Base beam
- Wheel gear boxes
- · Center drive gear motor
- Control panel

When all pivots are on the same power system, growers can save even more time and money by making a simple control panel conversion. The Valley ICONX smart panel easily brings any control panel – including all major pivot brands – into the Valley network by taking control of the existing panel and using its circuits.

"Using that one platform makes so much economic sense for growers," Bracht says. "It saves time, fuel, money and a lot of hassle to have consistent control during those critical growing periods. It gives growers the power to know exactly what's going on with their pivots, so they can make informed decisions and ensure proper irrigation at the right times."

GROWER ADOPTS TECHNOLOGY THAT PAYS OFF

Bryant Knoerzer is an early adopter of technology, from grid sampling to soil moisture probes; however, he only continues to use the technology that makes economic sense.





"I spend money only when I get an economic return," he says. "I need proof, and it needs to be worthwhile."

One of the technologies that has paid off for Knoerzer is irrigating with remote telemetry to control and manage his irrigation machines.

Knoerzer and his 80-year-old father run a cow/calf operation and grow corn and soybeans on 4,800 acres in south-central Nebraska. He irrigates most of his land using 35 center pivots, four corners and one pivot with a "bender" option. He owns 17 Valley pivots on his own land, and he uses seven more Valley pivots and six Reinke machines on fields he rents.

He began using remote telemetry on his irrigation machines as soon as he became aware of it.

"I started with Valley Tracker technology at least seven years ago," he says. "That's because I have one field that's farther away that had an irrigation machine that kept shutting down. It was frustrating, so I started using remote telemetry to see what was going on with that machine, without having to drive out there all the time."

"When Valley started offering AgSense telemetry, I upgraded," Knoerzer says.
"I've been adding more pivots to that network every year, and now I have all of my pivots, a stock well and even a Valley Precision Corner® on my AgSense network."

By adding more pivots to his AgSense network every year, Knoerzer was able to have all of his pivots integrated within about three years.

"Now, I can monitor and control my pivots remotely, which is great when I travel during planting and when we're harvesting," he says. "I don't have to stop what I'm doing to move my pivots. I can do it from anywhere."

Knoerzer says he appreciates the drive time he saves by running his irrigation machines remotely.

"I can start them up at night without leaving my house," he says. "I also have the assurance that they're doing what they need to do. I can check the rate of application and the length of time they're running. And if I have a machine shut down, my guys know what to look at. It takes the guesswork out of everything."



BRINGING THE CORNER INTO THE NETWORK

Until last year, Knoerzer had an older control panel on one of his Valley Precision Corners. That's when he had a Valley ICONX smart panel installed. The ICONX takes control of the existing panel to bring the irrigation machine into the AgSense network.

"I'm really impressed with it because I can monitor my corner machine just like all of my other irrigation machines," he says. "I can make sure everything is running as it should be."

He adds, "The ICONX has all of the goodies of modern technology, but it's simple enough for anyone to use. The Valley ICONX maintains the simple characteristics that I liked on my old panel, but it lets me make more precise adjustments, especially on end guns."

KEEPING CATTLE WATERED

Knoerzer also controls the water from a stock well with AgSense. He has pastureland about 10 miles away from his home office, where 250 cows graze. The ponds

on that land are not always a reliable water source, especially during dry years, so Knoerzer also pumps water from a nearby well to ensure his cattle have enough drinking water.

Having AgSense in that pasture paid off in one situation particularly.

"The electric company was out doing some work a while back and accidentally killed the power to the well during a time when our ponds were dry, so the cows had no clean drinking water," says Knoerzer. "I saw the situation on my smartphone, called the power company and they got the power back up and running. They had no idea there was a problem."

"That's the whole reason to have AgSense there," he adds. "It was a fluke, but I wouldn't have known otherwise, and the cattle would have suffered. Being aware of the situation helped us solve the problem right away."

CC

I'M REALLY IMPRESSED WITH IT BECAUSE
I CAN MONITOR MY CORNER MACHINE
JUST LIKE ALL OF MY OTHER IRRIGATION
MACHINES, I CAN MAKE SURE EVERYTHING
IS RUNNING AS IT SHOULD BE.

BRYANT KNOERZER



>>> To read more case studies, go to ValleyIrrigation.com > Resources > Product Materials > Case Studies.



DIVERSE FAMILY FARM BENEFITS FROM SPEEDY IRRIGATION TECHNOLOGY

On the fertile soil in the Columbia River valley in southeastern Washington is a family farm that uses the newest technology to help them grow a wide variety of crops: beans, peas, potatoes, onions, carrots, grass and alfalfa.

Three siblings own and operate the farm: Matthew handles most of the field operations, planting and harvesting. Nicole works the field, and deals with the administration of the farm, working with government agencies and growers' associations. Steve manages the irrigation systems and chemical application.

The farm uses 40 Valley pivots to irrigate their crops. They pump water directly out of the Columbia River from one main pumping plant, then move the water to their pivots using several booster stations that employ variable frequency drives (VFDs).

Steve enjoys trying new irrigation technology on his farm, and he works closely with Jonah Lindeman from Valmont Irrigation to employ the latest pumping and irrigation equipment to improve efficiency, eliminate erosion and keep his crops healthy.

Keeping Control

The Bergs control all of their pivots with remote telemetry via BaseStation3.

"Technology lets us see what's going on without an army of people going out and reporting," Steve explains. "We can see the whole picture ourselves. One or two people have the ability to control a lot more."

Steve uses the mobile app on his phone for quick and easy access to the control features on his pivot. He says that although using remote telemetry puts more responsibility on him, it also saves time and reduces labor cost.

"A couple of years ago, Valley integrated Google Maps™ software into the BaseStation3 software, and that really ties everything together for me," he says. "I have a complete picture. I know exactly where my pivots are and I can make my irrigation decisions based on that."

Farm Meets Fast

Because of the Berg's quick adaptation of technology, Lindeman suggested that they try a prototype of what would become the new Valley X-Tec® center drive.

This new drive operates up to twice the speed of a standard, high-speed AC center drive motor, using FastPass™ technology. The motor design also provides constant torque at any speed, and with the patented alignment technology, it moves the pivot at a smooth, consistent pace.

"I like to ask the most technologically advanced growers to test new products because they provide the best feedback," Lindeman says. "They like technology, they like to use it, and they enjoy being part of the development. The Bergs definitely fall into that category, and I thought this new technology could help their operation."

Valley FastPass™ Technology
Typical Seven-Tower Machine Comparison

Valley X-Tec Drive

4 hours total to finish irrigating a field
Limitations based on field conditions.

Standard AC Drive

8 hours total to finish irrigating a field

Steve decided to test the new Valley X-Tec drive on one of his existing Valley pivots, replacing his original AC center drive motor. The field under that particular pivot has sandy soil, in an area where he battles erosion.

"We used the X-Tec on that land to address erosion issues," Steve explains. "We can run a quick cycle over it so the sand won't blow. We had hay on that field for a while so the ground was covered pretty well, but when we plant potatoes, having the ability to keep the soil wet will make a greater impact."

The Valley X-Tec can help with more than just erosion issues. Crops such as carrots and potatoes are more susceptible to heat and sun, requiring a frequent cooling spray to remain healthy. Running a pivot over the crop at top speed provides the proper cooling for plant health.



Applying Chemicals in Half the Time

Steve says another big advantage of using Valley X-Tec is that it allows him to apply pesticides in half the time while using less water.

"I'm the only one who runs our herbigators, so before X-Tec, I could only get one field done in a day," Steve says. "Now, since the X-Tec can move the pivot twice as fast, I can use one herbigator to apply products on two fields per day."

Steve used the same process to apply copper on one of his fields to supplement the soil.

"Copper doesn't mix with anything," Steve says, "so on that single field, I put insecticide down first, cleaned out the tank, and then applied copper that same day. I don't have to do that often, but it does happen, and it's good to get it done in a day."

Valley X-Tec technology also allows Steve to apply products that are extremely time sensitive, without having to hire outside help.

"We use a product that has to be incorporated in the ground the same day it is applied," he says. "Normally I would hire a ground rig or airplane to apply this product at eight to 10 dollars per acre, because it takes me so long to apply and incorporate the product myself. With X-Tec, I can do it myself in one day, saving time and the application fee."

Continuing the Technology Trend

Now that it's no longer a prototype, Steve decided that the Valley X-Tec motor was beneficial enough to include it on four new Valley pivots he installed last year.

"There wasn't that much cost difference, and it's definitely worth having that new technology," he says, "especially with vegetable crops, and on soil that blows and erodes."

OPTIMIZATION FROM WATER SOURCE TO PIVOT

Since the very beginning of center pivot irrigation, Valley has concentrated on creating the best pivot possible. That commitment continues, but innovation today is about so much more than just the pivot.



Darren Siekman

Now, providing the best possible irrigation solutions includes everything from remote technology to the pivot point to the water source, as well.

"Valley grew up on the Ogallala Aquifer, so making good use of water has always been part of the equation," says Darren Siekman, Valley Irrigation Vice President of Water Delivery and Business Development. "We recognize that we've got to be able to get that water to the pivot, no matter where it's coming from – rivers, canals, wells or ditches."

GETTING WATER TO THE CROPS

Siekman says it's a challenge for irrigators to remain good stewards of their resources, while increasing efficiency and saving money. He explains that while pumping solutions do exist, Valley wants to make sure those solutions are optimized and communicate well with pivots, so we are continually searching for ways to provide better solutions for growers.

It's why Valley recently bought a majority stake in Torrent Engineering and Equipment, an Indiana-based company that builds prefabricated modular pumping systems and motor controls.

Torrent started as a snowmaking company, which made them experts in pumping water long distances in extreme conditions. They're now also a leading irrigation pumping company, building vertical turbine, vertical inline and most types of horizontal centrifugal pump stations. In addition, they provide variable frequency drives for added efficiency and control.

"Bringing Torrent under the Valley umbrella means that we can provide turnkey pumping solutions that arrive on site, ready to go," says Siekman. "The pumps come with all the appropriate switches in place, and a control panel that will talk to our pivots and vice versa. I call it optimization and inter-operability."

By having everything from the pump to the pivot to the sprinklers available on one system, growers can eliminate trips to the field because they can use their AgSense or BaseStation3 platform to see pressure, flow and other issues, if they arise.

"Our goal is to make sure our customers are benefiting," Siekman says. "We want to help them reduce costs and become more efficient through technology and service, and this is another big way we can do that."



AN ENTIRE TEAM AT THE GROWER'S DISPOSAL

Tyler Fields, National Sales Manager for Valley, says growers who have unique pumping or irrigating situations can find the answers they need, simply by calling their Valley dealer.

Through Valley, growers can access an entire team of experts to work on proper solutions for practically any situation, whether it's a water issue, irregular fields or challenging crops.

"A grower with a one-off situation can call his Valley dealer and get a team of engineers, technicians, sales and manufacturers all under one roof, working for him," says Fields.

Now that Torrent engineers and pumps are in the mix, it adds that much more flexibility and reliability for the producer. The Valley team can now incorporate new methods to move water to the pivot.

"Valley can work with the dealer and the customer directly to grasp the full situation and provide solutions they couldn't find anywhere else," Fields adds. "It's an amazing team that can work for any customer." CC

IT'S FUN TO GET A REAL
CHALLENGE AND HELP
GROWERS BECOME
MORE SUCCESSFUL BY
DETERMINING HOW TO GET
SPECIFIC FIELDS THE WATER
THEY NEED IN THE MOST
EFFICIENT WAY POSSIBLE.

TYLER FIELDS

GROWERS SAVE TIME, MONEY WITH POLYSPAN® PIVOTS

In some areas, growers are battling declining water quality. In other areas, corrosive water has been a way of life for years. Some farmers have opportunities to pump wastewater or effluent water. And in other cases, growers run corrosive chemicals through their pivots.



All of these scenarios can be hard on pivots, causing rust in the pipes and leading to a shorter lifespan for your investment. That corrosion can also result in growers spending precious time in the field, checking sprinklers and cleaning them out when they're clogged.

That's why more and more irrigators are installing or repiping with PolySpan®. PolySpan is a polyethylene liner installed inside the span pipe. Made in the USA, PolySpan offers proven strength in the field, with premium protection against corrosion, minimal pressure loss and no leaks – and it has an industry-leading warranty. It can add years of life to pivots while keeping sprinklers free from rust particles, even under the harshest conditions.

PolySpan for Effluent and Wastewater

George Rapp grows alfalfa, corn, wheat and milo in southwest Kansas. He irrigates his 6,000 acres using wells, effluent water from a Tyson plant and with effluent from a nearby feedlot. Eight of 40 pivots are PolySpan pivots, and Rapp says they'll continue to replace worn-out pivots with more PolySpan.

"It's not common to use effluent water around here, but it worked well in our location," says Rapp. "I see it as free fertilizer, and it's often free water. To reduce the amount of time I have to clean nozzles, I'm also mixing some fresh water with it now."

Rapp's Valley Irrigation dealer, Skip Garner of Teeter Irrigation, says Rapp's situation is unusual, but the need to have PolySpan definitely isn't, as water from the aquifer is getting harder now.

"We have repiped and replaced many pivots in the area in recent years," Garner says.

Changing Water Affects Pivot Life

Garner also works with Marc Miller, who has been using PolySpan since its introduction. He has replaced worn out pivots with PolySpan pivots and he's had several repiped, as well.

"We've had Valley pivots since the early '70s," says Miller, who pumps water out of a lagoon and canals from the Arkansas River. "Our water was good to start with, but now it's getting more corrosive. We've repiped four of our pivots with PolySpan."

Miller made the switch to PolySpan because he was spending so much time cleaning nozzles. Rust caused lots of clogging before PolySpan.

"Now I can just turn on the pivot and walk away," he says. "It's a real pleasure. I can be productive doing something other than cleaning nozzles. Plus, the PolySpan pivots will last a lot longer. I can't imagine why I'd ever have to replace them, even when I pump fertilizer through them."

Marc Arnusch has 14 total pivots on his farm in Prospect Valley, Colorado. He pumps water from wells on the Lost



Creek Aquifer and from the South Platte River. He says the aquifer water is very salty, causing corrosion in his galvanized pivots.

"We've tried PVC line and aluminum, but PolySpan is easily the superior product," says Arnusch. "We've been using it since 2011, both replacing and repiping pivots. Now half of them have PolySpan, and we'll continue to use Poly more. It's a great return on investment on irrigated acres."

That ROI is based on Arnusch's own costbenefit analysis, which includes expanded lifespan of pivots, less downtime and virtually zero regulator plugging. He says they are also prepared to run effluent water through their pivots from nearby dairies.

"Plus, every pivot is chemigation ready, and so much of that is corrosive also," Arnusch explains. "It's worth spending extra dollars on pipes to be able to run that."

A Long-Term Fix

Nebraska is known for its quality water source, the Ogallala Aquifer. But Steve Hoover, who farms in the Platte River valley near Grant, Nebraska, says the closer the water source is to the river, the more corrosive the water can be due to the chemistry of the water.

Hoover has galvanized pivots 10 miles away from the river that are nearly 40 years old, and are still going strong. However, the groundwater he pumps near the river is corrosive and basically attacks the steel.

"Our galvanized pivots are great in most areas, but for some reason, near the river we've had to replace pivots every 10 to 15 years. We've had to deal with continuously plugged nozzles, so we're replacing our pivots with Poly now," Hoover says. "So far, we've replaced four complete pivots and we've had two repiped. We have a couple PolySpan pivots on rented land. So far, PolySpan pivots are the only ones that have done a good job not rusting. We think it will be a long-term fix for us."

Hoover says he still checks for plugged nozzles regularly, but he doesn't have to clean them on his PolySpan machines.

"It's a real timesaver," he says.

STANDING THE TEST OF TIME

Arnusch says it best:

"We count on our Valley dealer (Keith Miller of Wiggins Electric) to solve problems we've never been able to solve before. He's a tremendous resource and provides sensible, rational upgrades. Upgrades like PolySpan reduce downtime and will stand the test of time. That makes it worth it for us."

Senninger® THE LATEST IN WOBBLER® TECHNOLOGY



Poor water quality, chemicals and effluent water can all be tough on sprinklers, causing wear and tear, and shortening their working life. That's why Senninger® recently introduced the i-Wob2®, the wobbler that's designed to last even longer in the field.

The i-Wob2 features a protective shroud, which guards the sprinkler's improved wear surface from the splashing of adjacent sprinklers, grit and direct UV damage.

Senninger Marketing Director Diann Ilkenhons says another benefit of the i-Wob2 is the integration of a dual nozzle carrier feature on the shroud.

"Some growers need or want to change their sprinkler flow throughout the growing season," she explains, "and since the protective shroud doubles as a nozzle carrier, those nozzle changes are quick and convenient."

The i-Wob2 also comes with a three-year warranty on materials, workmanship and performance. That's the longest pivot sprinkler warranty in the industry.

FOUR MODELS FOR DIFFERENT SITUATIONS

Different deflectors and operating pressures give growers the ability to customize droplet size to the needs of the soil. Like the i-Wob UP3 nozzle, the i-Wob2 is available in four different deflector models:

- The black deflector has a standard-angle trajectory, a nine-groove surface and medium-sized droplets, making it ideal for silty and loamy soils.
- The blue deflector features a low-angle trajectory, a nine-groove surface and medium-sized droplets for silty and loamy soils.
- The **white deflector** has a low-angle trajectory, a six-groove surface and large droplets that are right for sandy soils.
- The **gray deflector** has a standard-angle trajectory, a six-groove surface and small droplets, ideal for tight, clay soils.

Ilkenhons says Senninger will continue to produce the i-Wob UP3, as well, so growers can choose the best sprinklers for them.

"The i-Wob is still an excellent choice for many growers," she says, "but those with difficult water conditions or those desiring a longer, three-year warranty will choose i-Wob2."



A LITTLE WOBBLER® HISTORY

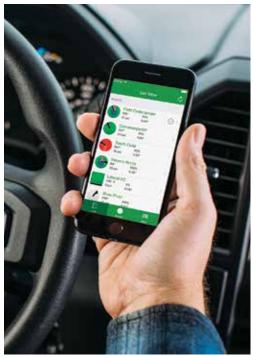
Senninger introduced Wobbler technology in 1978. Using grooved deflectors to divide a flow into numerous streams of water keeps them in a constant wobbling motion to further divide each stream into consistently sized droplets. The consistent droplet size is what helps maintain a sprinkler's pattern integrity against wind drift and evaporation. This technology soon became an industry standard.

The i-Wob was introduced in 1997, and is the most imitated sprinkler in irrigation. Ilkenhons says that's because others recognize the uniformity and low application intensity benefits of Wobbler technology.

Now, in 2018, Senninger introduces the i-Wob2 for added durability and longevity. "Senninger is always looking for ways to improve our products," Ilkenhons says, "and this offering demonstrates that commitment."

AGSENSE 60-Day Guarantee Leads to Simplified Irrigation





RISK-FREE TRIALS OF REMOTE TELEMETRY

With the increasing demands on growers' time and resources, AgSense remote telemetry has become an essential part of managing irrigation. Controlling and managing pivots from a smart phone or tablet can be the ultimate timesaver, allowing growers more time to spend on other aspects of their operations.

That's why more and more growers are deciding to give AgSense a try. According to AgSense Vice President of Sales Steve Sveum, the AgSense 60-Day Guarantee provides growers satisfaction guaranteed.

"It's really more of a promise than a program," Sveum says. "The customer can try AgSense telemetry free for 60 days on any device. If he doesn't want to keep it, we'll reimburse him after 60 days. The guarantee even includes the hardware if they have it removed. Honestly, though, out of tens of thousands of 60-day trials, I can count on one hand those who haven't opted to keep AgSense."

Sveum says some growers doubt they need AgSense until they try it, but then learn they wouldn't do without it.

It's natural for a grower that is new to this type of technology to be somewhat skeptical before they have had a chance to try it. But they quickly find it to be so easy and convenient that they can't imagine irrigating without it.

AgSense ICON Link Makes It Simple

Now, more people than ever are trying and keeping AgSense, because AgSense ICON Link is included on every Valley ICON smart panel.

"People get an ICON panel on a new Valley pivot, and they can try AgSense

risk free," Sveum says. "Most people find they really like it. Often, that leads to more pivots on the AgSense network, even on existing pivots, either by adding Valley Field Commander® or by installing a Valley ICONX smart panel to an existing pivot."

AgSense Helps Grower Go the Distance

Craig Quiring farms with his brother Lonnie and father Alden in central Nebraska. They've been irrigating for years, and have more than 30 pivots. Their land is spread out – about 45 miles from one end to the other.

Quiring says last year they decided to put AgSense capabilities on more than a dozen of their pivots. They had tried another type of remote telemetry, but wanted to try AgSense because it was compatible with all pivot brands.

"About three-quarters of our pivots are Valley, but we also have Zimmatic and Reinke, so we wanted to make our control uniform," Quiring says. "We put it on the pivots that are farthest away. We used to have to check on them

twice a day, but now we can keep track of them remotely, so we only have to go out there once a day."

Quiring says they also placed AgSense on pivots that have the potential to collide with each other.

"We can keep track of where they are and make sure they're off when they're supposed to be," he says. "It saves us a 15- to 20-minute drive every time. We are also short on water in some places, so AgSense alerts me if the pivots shut down. I can get it going again and not lose half a day."

"Basically," he adds, "AgSense allows us to plan better and avoid downtime."