



VALLEY 

SPRING 2013

# pivotpoint

 Positioned to Succeed

Take it From A **Pro**

**GPS** - Accurate and Effective

**Custom-Built** Precision Irrigation





## Tried, True and Ring in the NEW

It's amazing how far we've come. Technology like GPS has provided growers more benefits than we ever could have dreamed when we first heard of it. At the time, it seemed more like science fiction than usable science.

Who could have guessed that what started as a military application would quickly make farming more cost effective while maximizing yields and making on-farm operations easier and less stressful?

Today, GPS is a vital tool used on farms in every state, on all types of crops and in any kind of terrain. It's helping growers be more efficient with their time, the water and chemicals they apply, and even the labor they require.

Variable rate irrigation uses GPS and other technologies to make the most beneficial use of the water that is applied to your crops. And growers can use the TrackNET family of products to see what's happening with their irrigation systems from anywhere with web access – allowing more efficient use of their time.

Valley Irrigation is always looking for ways to put new technology to use. While our engineers are making advancements in the way people farm, they also make it a priority to ensure that these new technologies are compatible with our existing products, so making the most of the latest and greatest doesn't have to be a large investment.

You can read about some of these new technologies in this issue of PivotPoint.

I, for one, can't wait to find out where technology will take us next.

**LEN ADAMS**

*President, Global Irrigation*

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# TAKE IT FROM



Sector Programming



End Gun Control

## TrackerPro Features:

- Sector programming
- Application depth control
- Remote stop/start
- Percent timer control
- End gun control
- Stop-in-slot
- Stop by time
- VRI speed control
- Ability to view historical information and weather reports

Growers who have non-computerized control panels on their irrigation machines will soon have another product to monitor and control their machines remotely - Valley TrackerPro.

TrackerPro is the newest member of the TrackNET family of products, providing growers the ability to monitor and manage their pivots from their computer, smartphone or tablet.

Now available, TrackerPro is compatible with both Valley and non-Valley pivot control panels. It installs easily right at the pivot point and now allows efficient and extensive monitoring and control capability for Valley Classic, ClassicPlus and other brand non-computerized pivot control panels.

# A PRO



**“TrackerPro takes non-computerized pivot panels to a new level,” says John Rasmus, Valley Product Manager. “The capabilities are very similar to computerized panels now. I think a lot of growers will be excited about how much easier their lives will be once they start using it.”**

With TrackerPro technology, growers can now add GPS Position and other important position based functions, like end gun control, stop-in-slot (SIS) and Sector Programming to Valley mechanical and non-Valley control panels with TrackerPro technology.

Sector Programming control is a new feature which allows the user to remotely control as many as nine different management sectors and control the amount of water applied in each sector.

With TrackerPro, growers can check on the status of their irrigation machines from their computer, tablet or smartphone and remotely program end guns, stop in slot, application depth and load management schedules anywhere there is internet or cellular access.

Rasmus explains, “This is a powerful tool for growers who have non-computerized control panels, because they can see what’s happening with their pivots from anywhere, eliminating numerous trips out to their pivots. They have so much more control without being at the site. We’re really excited about what this new product offers growers”.



## TrackerPro



# POSITIONED TO SUCCEED

## How GPS Changed Farming as We Knew It

From tractors and combines to irrigation systems, growers are using GPS to make the most of their land and make their jobs easier and less stressful. Today, precision farming is becoming the norm.

**“With precision farming, growers are optimizing row spacing, accurately applying fertilizers, crop protection products and water, and being more productive with the land available to them,” says Valley Product Manager Scott Mauseth. “Farming is really evolving.”**

Global positioning history began on the farm in the form of auto-steer tractors, which became available in the late 1990s with the growth of the GPS network. Auto-steer provides greater accuracy for strip-till and other precise techniques. Its use helps to alleviate exhaustion of the operator, allowing better monitoring of all the equipment involved for the task at hand.

### **GPS helps growers make the most of their biggest asset – land**


GPS makes Variable Rate Irrigation (VRI) possible. VRI technology gives farmers a more precise way to apply water and other crop inputs. With tools like soil maps and yield maps, growers can prescribe where the water should be applied to maximize production and make the most efficient use of the water resources being applied.

“GPS has also opened the potential to use corners and linear machines without burying wire,” says Mauseth.



**VALLEY.**

**GPS** READY



Global positioning systems allow us to get driving directions, keep track of our kids and pets, and even figure out the best fishing spots. But one of the most important and profitable ways GPS has changed the world is through farming.

By choosing the GPS Guidance option growers can make changes in their corner path with less expense and in significantly less time. Wire placed under structures or in planted fields is no longer an issue, and growers won't waste precious time when the wires need repair or the path of the corner needs to be changed.

Mauseth explains that since GPS was already being used in nearly every new implement on the farm, it just made sense to incorporate it into irrigation. "Valley introduced GPS Ready control panels in September of 2008 and GPS Guidance for corners and linears in 2009."

Pat Tolman, General Manager of Valmont Northwest, a dealership located in Pasco, Washington, says, "We have growers implementing GPS positioning tools daily. It's a relatively small cost to install on a new or current center pivot. It's an easy upgrade that can result in a huge payback."

Using the same GPS base that farmers are already using for their implements makes things pretty simple. Tolman explains, "Many growers already have a base, or they're renting space from their local dealership. It's very easy to find a base to use."

## GPS offerings from Valley

Valley utilizes two GPS choices available to growers. **GPS Position** with GPS Ready-Control panels utilize the Wide Area Augmentation System (WAAS) to pinpoint the position of your machine accurately. WAAS uses a network of ground-based reference stations throughout North America to measure and correct for small variations in the GPS satellites' signals. Add-on GPS positioning packages are available for pivots and linears and require a GPS Ready control panel like Pro2, Select2 or AutoPilot. The GPS position calculations are performed right in the control panel, a unique design feature in Valley control panels, so there is no need for an external processor.

**GPS Guidance** for Valley linears and corners is another Valley innovation. Growers can steer their corner or linear machines through the field utilizing GPS as the choice vs. buried wire guidance. GPS Guidance allows growers to make the most of their GPS technology investment with compatibility to existing John Deere™ Starfire™ or Trimble. Navigation with these systems relies on Real Time Kinematic (RTK network) satellite navigation. RTK uses a single receiver as a base and rebroadcasts information to mobile units on the linear or corner machines. The base receiver uses measurements of the signal phases derived from the GPS satellites to gain greater accuracy.

GPS technology for center pivots, corners and linear machine can bring a number of benefits to an operation. Growers will experience enhanced management capabilities and can take advantage of precision application techniques for water, fertilizer and crop inputs. This can lower input costs and ultimately can lead to higher yield potential – and greater profits.



## Exactly how does GPS work, anyway?

The basic idea behind global positioning is triangulation, using a group of satellites to act as reference points in space. Calculations based on the known distance of the satellites above the Earth and the time it takes for the signal to reach a receiver on or near the surface of the Earth allow the system to accurately record the receiver's location.





# PUMP UP

## Valley Goes Beyond Pivots with Pumping Stations

Getting water to the pivots that irrigate crops can be a big challenge. With growers developing new and different water sources, pumping solutions are becoming more important.

Valley® Water Management™ was created to meet the increased demand for moving water from various sources out to the pivots. The experts in all things irrigation now give Valley dealers and growers a seamless process – from water source to watered crops.

Wade Sikkink, Director of Valley Water Management, says Valley Water Management is a result of the company's customer focus. "There was a demand out there and we want to make sure our growers are able get everything they need from us.

"We can design and build the pumping station according to the grower's needs, whatever those needs may be," says Sikkink. "Plus, growers don't have to work with anyone but the dealer they already depend on for irrigation solutions."

Donnie Sanders of Martin Truck and Tractor in Columbus, Mississippi, agrees. "Our customers will have absolute assurance that their Valley Water Management Pumping Stations will be the most efficient way to bring water to their crops, because it comes from Valley Water Management. They can get all of their pivot, pump and crop technology in one efficient solution."

Water Management Pumping Stations are ideal for growers who are developing new ground, especially those doing multi-pivot installations and pulling water from surface water sources. Valley Water Management can also help growers with single pivots or smaller operations getting water from rivers or creeks.

"There's a lot of activity in the Southeastern United States right now, because a lot of surface water sources are being developed," explains Sikkink. "It's difficult to drill wells in the southeast and many growers are creating reservoirs.

"The region gets a decent amount of rain, but not always at the ideal times in the growing season," Sikkink says. "By installing a reservoir, they have water whenever they need it, and with our pumping stations, growers can get the water where it needs to go in the most efficient way."

### Saving time and money

Since each pumping station is custom engineered and built, the grower can specify the features he wants and the station will be as efficient as possible for that situation. This also makes initial installation faster and less costly.

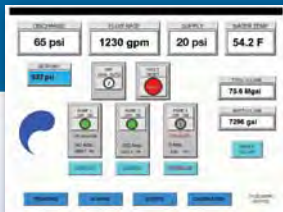
Growers will receive skid-mounted stations as one complete unit which includes pumps, motors, controls, variable frequency drives (VFDs), headers, valves and flow meters. All that has to be done is hook the station to suction, discharge and electricity. Each pump station is tested before it's shipped, so installation can be quick and trouble free.

Because the pumps and components are properly selected and sized for each system, operating costs will be reduced for as long as the station is in use. Valley Water Management Pumping Stations are also designed with energy-saving VFDs, providing lower energy costs and a longer motor life.

In addition, Valley Water Management Pumping Stations allow for remote monitoring and control using Valley BaseStation2. Growers can monitor and control their systems from nearly anywhere.

"Being able to offer this service will bring many more opportunities for us and for our growers, says Sanders. "Growers can get everything from Valley, so they're working with someone they already trust."

## Why Valley Water Management?



- Valley is the trusted provider of reliable and efficient irrigation equipment
- Each pump station is custom-built to grower specifications
- Pump station automatically controls flow and pressure
- Remote control and monitoring is simple with BaseStation2
- Variable frequency drives save energy and prolongs motor life
- Fault monitoring is integrated in the system
- Service is provided by the most extensive dealer network in the country





## Custom-Built Precision Irrigation From the Start

**Variable Rate Irrigation (VRI)** has made irrigating more precise and more effective, helping growers make better use of their available water.

# QUICKSTART INTELLIGENCE

Valley now has a way to take the learning curve out of the equation, with VRI QuickStart. QuickStart is a prescription for Speed Control, custom developed specifically for the field the machine is irrigating. It's uploaded into the control panel before installation on new machines, or it can be uploaded to any existing VRI control panels and TrackNET products.

"Basically, growers can hit the ground running with the QuickStart Prescription," says VRI Product Manager Cole Fredrick.

### HERE'S HOW IT WORKS:

1. A Valley dealer works with the grower to determine the ideal water application across the irrigated land.
2. Based on this information, the Valley VRI Team develop the prescription and upload it into a new control panel before it's shipped for installation. If it's an existing panel, they can upload the prescription via direct upload or TrackNET as well.
3. The grower can start using VRI right away.

"We'll load the prescription directly into the control panel, so there's no lag time between when the control panel is installed and when the VRI is functional. We can also develop prescriptions for TrackNET products and load them wirelessly over the internet," continues Fredrick.

From the start then, growers can take full advantage of VRI Technologies.

### WHAT IS VARIABLE RATE IRRIGATION?

#### VRI Speed Control

VRI QuickStart makes VRI Speed Control available the instant the prescription is uploaded. Speed Control allows growers to:

- Speed up or slow down the pivot in two degree increments to achieve the right application depth for varying field properties and conditions
- Use a new or existing sprinkler package
- Use with TrackerLT or TrackerPRO
- Use the Pro2 or Select2 control panel

#### VRI Zone Control

Zone Control allows growers to:

- Pulse control valves on/off along any individual management zone to achieve the right application depth for varying field conditions and properties.
- Use on/off control for specific areas in the field that may not need water, like ditches, canals or wet areas
- Use a new or existing sprinkler package
- Easy plug and play capability

"We have had discussions about what would make getting the benefits of VRI to growers more quickly and in an even simpler way," explains Fredrick. "That's where VRI QuickStart began. It's a Valley exclusive and we think it's going to be very beneficial for the grower."





# UNIFORM WATER DISTRIBUTION IS CRITICAL

**William Kranz**

UNL Extension Irrigation Specialist

Driving around the countryside one can't help but marvel at the impact irrigation water application has on crop production. Many people would say that the 2012 growing season was the hottest and driest they have ever experienced. Can we take something positive away from the experience? Based on my travels one must acknowledge that some of our center pivots are growing older and little problems have grown to the point where they now significantly affect water productivity. All one has to do is fly over center pivot irrigated fields to see where water application uniformity could be improved. The most noticeable things include:

- a) Sprinklers can blow out of the coupler leaving a geyser spewing out of the pivot,
- b) Sprinklers can wear out and stop rotating or rotate out of control,
- c) Pumping water level may decline so that the system flow rate and pressure no longer match the original design,
- d) Leaky boots and seals deliver excessive amounts of water to relatively small areas, and
- e) Sprinkler spacing is too wide

A group of Extension Irrigation Specialists pondered how to evaluate the impact of sprinkler spacing issues on water productivity and came up with the following approach. First, they located sprinkler problems on the center pivot. Then they went to the area of the field where the center pivot was perpendicular to the crop row direction. They hand-harvested and weighed the grain produced in 20 feet of each row for 4-6 rows on either side a sprinkler problem. What they found was that corn grain yield dropped by up to 40 bushels per acre in areas where the sprinkler spacing was too wide. How wide is too wide? If the sprinklers are operating more than a foot into the crop canopy, any spacing wider than 7.5 feet is too wide. If a sprinkler is plugged it can impact yield in a similar manner.

Most of the problems listed above are easy to fix. Not only that, but they likely will not require a large capital investment to fix. However, depending on the location of the sprinkler problems along the pivot pipeline, the economic impact of a few sprinklers or a leaky gasket can be very significant.

Irrigators should remember that problems like those they identified in 2012 have likely been impacting grain or forage yield for a number of years. This means that even though the yield impact was more noticeable in 2012, a small yield loss is likely even when rainfall is at more normal levels. So don't let poorly maintained center pivots eat into your bottom line, fix the problems now.



"When you're raised on a farm, you can't face sitting in an 8-by-8 cubicle."

Rocky and Rusty Trail agree, farming gets in your blood. That's why the father/son team are still working the land that Rocky's father started farming in 1937.

"My dad raised me, along with my five siblings, on a 160-acre farm," says Rocky.

"Now, Rusty and I are farming 2,200 acres together."

Trail Farms is a family corporation, headquartered in their home, tucked in the Pensacola Valley in Southwest Idaho, just outside of Glenns Ferry. Rusty, his wife Jennifer and their two kids live in his grandparents' former home, while Rocky and Terrie, his wife of 42 years, are in the home they built when they first came back to the farm.

Neither man intended to make their living on the land. They both went off to college at the University of Idaho in Moscow, Idaho, with different careers in mind, but both found themselves drawn back to the farm. Rocky came back in 1974, and has been farming ever since.

Rusty laughs, "I never planned on farming, but I found that when I called home, I'd ask more and more about what was going on with the operation. I came back right after graduation in 2002."





# Farming is in the Trail Blood

Today, the two men and their wives work together very closely. Eventually, Rocky and Terrie plan to step back, taking more time off and traveling. For now, though, it is truly a family affair, as Rocky teaches Rusty all the nuances of farming the land, even as Rusty uses technology to get more out of that land with precision planning. Meanwhile, Terrie and Jennifer work together on the books.

"We'll be sitting around the dinner table at night with the kids, talking business," says Rocky. "We make all of our decisions jointly. With us, it's all family – all business."

## Working together to save money

Farming 2200 acres in the hills and valleys of Idaho presents some challenges, one of which is how to irrigate their sugar beets, alfalfa and winter wheat. They have always irrigated their land, mostly with hand lines, which requires a lot of labor.

Rocky explains, "The whole goal is to save on labor, and while pivots aren't totally labor-free, they're much better than hand line irrigation. It takes 10 guys to work with hand lines, but only three to work with pivots."

The Trails decided to start the switch to pivot irrigation about 13 years ago. Valley dealer JTS Farm Store is about five miles away from Trail Farms and the Trails knew the owners, Jim and Lea Ann Schraeder, so it made sense to work with them.

Lea Ann Schraeder says, "Rock and Rusty are just great guys to work with. They're very business-oriented, so they require a quality product and good service. Just because

we're close by doesn't mean we'd keep their business if we didn't come through for them." Including two soon-to-be-delivered new pivots, the Trails have nine Valley pivots, covering nearly half of their land.

"Fifteen years ago, some of our land wasn't considered suitable for pivots at all," explains Rocky, "but by adapting to different water sources, we installed pivots on that land, and it's working well. Using sprinklers on beets while they're germinating is so much better," Rocky says. "Pivots are very flexible for that, and hand lines really aren't."

**"We were one of the first operations to use a reverse swing arm, which moves counter clockwise," says Rusty.**

The Trails keep up with technology when it makes sense. For example, they use auto-steer on their implements and they have Trackers on their irrigation systems, with all alerts going to Rusty's smart phone. They're also looking into purchasing a Valley Base Station2-SM.

## Will there be a fourth generation Trail farmer?

Rusty's son Parker goes out on the tractors with them every year and loves it. "He says he wants to be a farmer, too," says Rusty with a smile. "Of course, he's eight, so we'll have to wait and see."





# Need more **ACRES?**

## Growers Irrigate More Land to Increase Yields

The value of farmland in the Corn Belt rose 13 percent for the year ending October 1, 2012, according to a Federal Reserve Bank of Chicago survey<sup>1</sup> as commodity prices rose to record and near-record highs.

This environment makes it more important than ever to make the most of cropland to get the highest possible yield. Valley continues to respond to this need with products to help growers accomplish just that.

We recently did a study and found that growers can increase their profits by at least \$600 per acre on corn in Nebraska, just by irrigating more of the land they already have,” says John Kastl, Valley Product Manager. “That’s why we offer Bender, DropSpan and Corner products.”



### **Bender30**

For a low investment, growers can gain up to six acres in each direction. The Bender30 can be placed on any drive unit, providing the ability to bend around trees, feed lots, roads, wells or other obstacles. If the Bender30 adds just 3.5 irrigated acres, it will pay for itself in one year.

- Available with PolySpan, for use with corrosive water
- Bends up to 30 degrees in either or both directions
- Uses existing structural components, so it's easy to retrofit with no structural change required
- Completely automatic, no operator input required



### **Bender160**

As the name indicates, the Bender160 can bend your machine up to 160 degrees, allowing irrigation around large obstacles, like houses, grain bins and barns. Exclusive to Valley, the Bender towerbox controls the end guns and allows the machine to always know the bending angle. It takes only an additional nine irrigated acres for a one-year payback – and the Bender160 can irrigate up to 32 additional acres.

- Bends up to 160 degrees in either or both directions, in forward and reverse
- Uses custom structural components
- Provides integrated end gun and auxiliary controls for bending mode





## Valley Corner

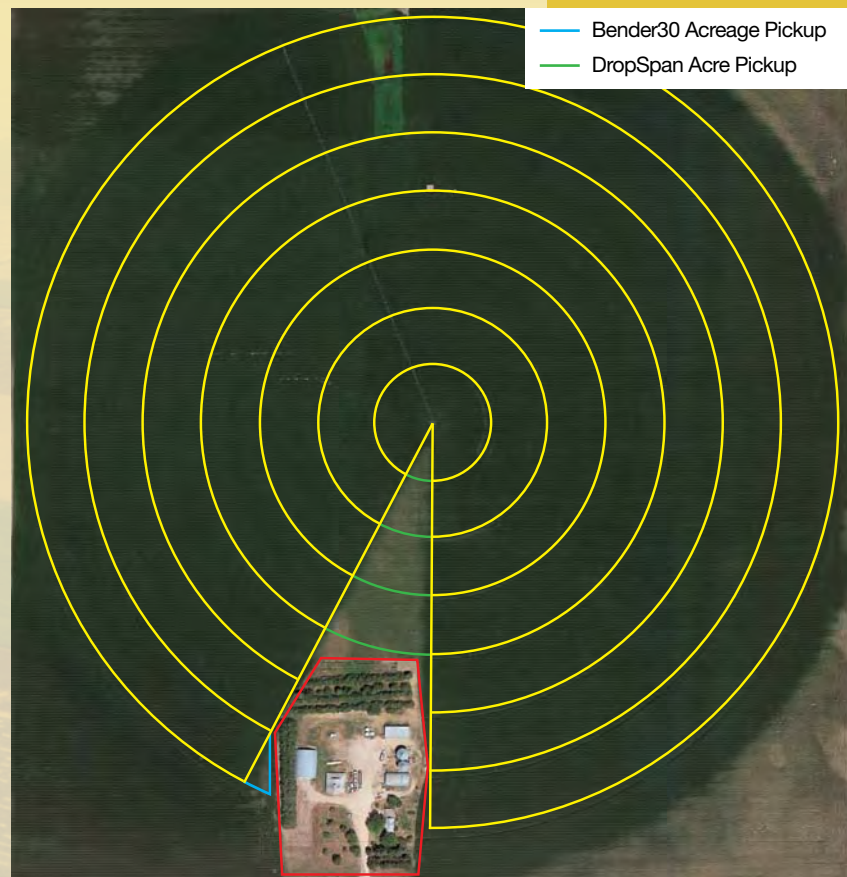
Valley Corner is the original corner machine, introduced in 1974. It is the simpler, more mechanical corner, efficiently and economically irrigating the corners of square, rectangular or odd-shaped fields.

- Low-profile track and roller joint connects the corner arm to the machine
- Field Proven, rugged structure handles tough field conditions
- Sprinkler's sequencing is corner angle based and is controlled with a simple cam stack and microswitches
- Available with GPS Guidance

## Precision Corner

The Valley Precision Corner is the leading corner in the industry. It has variable drives for smooth operation, more accurate water application and efficient use of electricity.

- Water transfer connection and hose eliminates pressure losses from multiple 90 degree bends
- Industry leading 8000-series span and wide drive unit wheelbase for the toughest field conditions
- Available with GPS Guidance
- Angle sensor and computerized sequencing assures water uniformity



## DropSpan

With DropSpan, growers can drop the outer spans, so the rest of the machine can irrigate acres behind barriers. At the edges of the field, DropSpan allows growers to drop as many spans as necessary, and then reattach them as the machine returns.

- One person can attach or drop spans in only 15 minutes – with no tools!
- Winch and support leg system is used to easily drop and reattach outer spans
- Simple electrical connector manages span cable and control logic, so no rewiring is necessary
- Optional End Gun can be mounted at the DropSpan drive unit.





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The lineup of TrackNET products gives growers the ability to control and monitor their equipment from a smartphone, tablet or laptop, avoiding the daily trips to the field which result in fuel and labor savings. With three Tracker products to choose from, no matter the brand of machine or type of control panel, Valley has the remote management product for you.

**This is a limited time offer.**  
**See your Valley dealer today!**

\* 10% off applies to TrackerLT, TrackerSP and TrackerPro purchased from March 18th through May 1, 2013. This promotional offer is not available on Tracker2 purchases.