VALLEY

PivotPoint®

Spring | Summer 2021

Valley 365®
providing growers with
even more features
and remote control

Now with **intuitive**
pump control and
water level management

OWN YOUR TOMORROW

Valley 365®

LETTER FROM THE PRESIDENT

Rear Admiral Grace Hopper, technology pioneer and the first female recipient of the National Medal of Technology, once said: “The most dangerous phrase in the language is ‘we’ve always done it this way.’”

In agriculture, we know that to be true. So much depends on all of us to produce more with fewer resources. Farming must be among the greatest innovators so we can feed and clothe the world.

This issue of PivotPoint® is full of the latest technology available in the irrigation world – notably Valley 365 connected crop management. You’ll learn how vastly different farming operations are using Valley 365. Discover research being conducted about the ways technology can benefit different irrigation management practices, and how Valley® Irrigation will never, ever keep doing things just because "we’ve always done it this way."

Thanks for reading and growing with us. We look forward to your success.

LEN ADAMS
President, Global Irrigation

Valley 365

As you may know, Valley Irrigation launched Valley 365 last March, right before the pandemic hit. Just because most of the world shut down, growers like you didn’t. So as some of our dealers and growers put Valley 365 through its paces, we asked the questions that continue to drive technology improvements.

What did we discover? Growers wanted additional features to enhance the technology even more and we've delivered.

See for yourself!
Check out the Valley 365 demo.
www.valley365.com/login

Your farm is about to **get even smarter!**

You require next-level connected crop management to avoid wasted resources while promoting crop health. So we’ve amped up Valley 365.

You’ll still benefit from single sign-on connectivity on the Valley 365 app. You can control and monitor all your irrigation so you can provide better water delivery through various technologies, all brought together in one place.

Of course, you have a direct connection to Valley, as well. In limited release areas, Valley Insights® virtually scouts for crop health concerns related to water application, pests, disease, weeds and more through varied acquisition methods including aerial imagery and pivot-mounted sensors. Using artificial intelligence (AI) Valley Insights provides early detection and enhanced scouting, so you can make fast and informed decisions during critical stages of crop development.

Providing growers with **even more** remote controls.

Pump Command®
Provides intuitive pump control for large and small farms looking to automate pumping operation. Save time and resources with full remote monitoring and control.
www.valleyirrigation.com/equipment/remote-devices/pump-command

VRI Speed & Zone Control
Allows you to optimize and apply accurately using field-specific prescriptions, maintaining plant health while maximizing yield. You can adjust watering rates to soil type, crop and topography for more precise water application, reducing over-watering, under-watering and even runoff.
www.valleyirrigation.com/vri-zone

Water Level Management
An affordable, ultrasonic technology to measure water in fields above and below ground level in real time, remotely from anywhere. You can pair with Valley pumping solutions to turn the pump on and off automatically.
www.valleyirrigation.com/valley-365

OWN YOUR TOMORROW

Striking (Terra) Gold with Valley 365

Austin Ochoa manages Terra Gold farms, a five-generation family farm near Othello, Washington. He has to rely on the latest technology to track and manage up to 8,000 irrigated acres spread over several farms, with a variety of crops, including notoriously finicky onions and potatoes.

That's why he started using Valley 365 last season. Valley 365 acts as the command center for full access to all Valley technology. It works through AgSense® technology, which Ochoa had already been using on his Valley pivots.

"We do all our scheduling and managing on Valley 365," he says. "When we get alerts when a pivot breaks down, we can usually get it up and running again quickly. That's one of the things we're excited about with this new technology."

Improving Crop Health

Another extremely beneficial technology included in Valley 365 is Valley Insights, which uses imagery to determine crop health concerns related to irrigation and other factors. It does this by feeding the imagery into algorithms with artificial intelligence technology to detect anomalies, and then notifies the grower about what's happening so they can take proper action, saving time and resources, and increasing profitability.

"I'll get all the imaging from Valley Insights, so I can see if there's anything that sticks out and get it addressed sooner rather than later," Ochoa explains. "I'll direct the guys on what takes priority. I'll also look at all the telemetry and make sure everything's staying on and being repaired in a good manner."

Ochoa says Valley Insights helped take the guesswork out of where and when to fertilize, especially sensitive crops like potatoes.

"What we notice is that we can really see a different yield and quality in some spots. In the past we'd see it visually, and then go in with extra compost or fertilizer to get them back to normal. But with Valley Insights, we can see that there really is a difference in crop quality, and we can fertilize according to what it shows us."

> "IN MY OPINION, THIS IS THE FUTURE OF FARMING."
>
> **AUSTIN OCHOA**

Reducing Labor Costs and Down Time

Using Valley 365 eliminates the need for workers to go out and look for issues first thing in the morning. Instead, they know right away when there are problems. If a pivot needs attention, they can go straight to it and get it fixed.

"They don't have to go and check everything out for an hour, hour and a half in the morning before they know where they're going," says Ochoa, "so we're able to save that way and just be more efficient with our labor."

The Future of Farming

Using Valley 365 gives Ochoa the data necessary to determine future water purchasing, which can lead to better preparation and cost savings.

"We can figure out if we're going to need to purchase more water for the season, or if we have extra water we can move it around somewhere from the irrigation district. We're able to get an idea if there's any difference in water usage by variety (of crop). That gives us some cost savings by pre-purchasing."

Terra Gold Farms can also develop the necessary reports for government agencies and for customers. For example, the USDA Farm Service Agency requires reports for water usage by month and by crop, while customers require water usage by crop and variety, and also which fertilizers and chemicals are used.

Ochoa believes Valley 365, specifically when used in conjunction with Valley Insights, is the future – especially as it integrates so many features in one easy-to-use platform.

"I'd highly recommend it to anyone that's thinking about it," he says. "In my opinion, this is the future of farming."

Click here to watch more from Austin and how Valley 365 is the golden ticket to connected crop management.

Talking Turkey About Managing Wastewater with Valley 365

Treating wastewater and using it to irrigate presents all kinds of challenges – stiff regulations, plugged sprinklers and more. Josh Batchelor knows it all too well. He is the farm manager at a large poultry processing facility in Mount Olive, North Carolina, where they grow grass crops under pivots.

They treat the water coming out of the poultry plant, send it to a lagoon, and then pump that water to their fields.

Batchelor and his team use Valley 365 to monitor and control all 24 of their Valley center pivots, with two more Valley pivots replacing older pivots soon. Nine people use the connected crop management platform on a daily basis – two on their smartphones and seven on iPads.

Batchelor says Valley 365 is very easy to use, and it saves his operation time and labor.

"It has simplified my life a ton," he says. "Before, we'd have to drive to each center pivot. When you've got this vast of an area, it takes a long time just to turn each one of them on and off. Now, we can do what we want to do in five minutes. If I'm at home and want to know what's going on, I can pull up the app to actually see if we're running and not have to bother the operator or call to see what's going on throughout the day."

Batchelor says Valley 365 has alerted them to plugged sprinklers and even pipe breaks quickly, so they could get them fixed right away to keep those fields healthy.

Handling Regulatory Approvals

Batchelor believes reporting will become more and more common for farmers, and Valley 365 is a good tool for that. "I really think in the future the recording of data is going to become more important. The farmer is going to need more accurate data moving forward. They don't want to rely on formulated flows and outputs. You can actually have a meter on your pivots and hook it up to Valley 365 and start recording accurate data."

> "WE CAN GET IT STARTED UP A WHOLE LOT FASTER, AND BEING ABLE TO QUICKLY INCREASE VOLUME OF FLOW HAS REALLY BEEN BENEFICIAL.
>
> **JOSH BATCHELOR**

North Carolina heavily regulates irrigation, especially when wastewater is involved. Valley 365 helps Batchelor provide the proper documentation for what the operation needs to stay in compliance.

"We have to report monthly flow numbers to the state," he says. "We use monitors to send data to Valley 365, giving us the total flow and rainfall every 24 hours, which we have to report. We send in flow, inches, wastewater data, that sort of thing."

Saving Resources and Improving ROI

Easy control and monitoring through the Valley 365 app, along with access to all the right data, helps the farming operation save fuel and water. They have fewer trips to the field, and they can adjust for wet, cool weather, even in specific areas within fields.

"In wintertime in certain parts of the field, it stays really wet, so we can use Valley 365 and set GPS coordinates to cut the pivot off and turn it back on as it goes around. We have also been using solenoid valves, so just as a specific span hits a wet spot it turns off."

Batchelor says there's no question that Valley 365 pays for itself. "We can get it started up a whole lot faster, and being able to quickly increase volume of flow has really been beneficial," he says. "I would recommend it to anyone who uses pivot irrigation."

To provide a macro-economic perspective on the outlook for U.S. commodities, Higby Barrett provides their outlook to help you develop your operational strategies in a global market.

World Food Demand Increasing

Asian countries have very little additional land available for agriculture. With China, India and other Asian countries accounting for half the world's population, marginal consumption increases create demand for imported products. Aside from Chinese importing more agricultural products, many other Asian countries have experienced strong gains in disposable income. Because of the low starting point, the absolute income gain is quite small. The area consists of extreme poverty, which is very important for commodity consumption, but especially food products. As income increases, a wealthier person responds by switching to high-end food products and eating at restaurants. Although they are spending more money on eating, the volume of coarse grains, wheat and protein meals consumed might not increase. By comparison, as income increases for poor people, they respond by adding ingredients to a basic diet. Eating tastier food often requires vegetable oil, meat, fruits and vegetables. Meat production requires feed rations of grains and protein meals that are converted into weight gain. For example, if 1.6 pounds of feed is required to add 1 pound of chicken, switching, or just adding chicken to the dish results in an increase in per capita consumption of grains and protein meals.

Higby Barrett contends that the expansion of the money supply in 2009 led to inflation in developing countries. The wage expansion in developing countries was tremendous when measured as a percentage but minor when compared to wage increases in developed countries. With China's per capita average yearly income at $10,000, another decade at a similar pace would increase China's per capita yearly income to $100,000. This will not happen because China is now outsourcing labor to surrounding countries and Africa. With the growing demand base, the floor price for all commodities should increase.

HigbyBarrett

China Pork Production

In the short run, increasing crop acreage is challenging because of urban expansion and more demand for food crops, such as fruits and vegetables. In the long run, with personal wealth increasing, people are buying larger homes and moving away from farming. At some point the marginal land that is being row cropped will be shifted into pasture. If China is to meet five-year plans for meat production, China needs to support world grain prices to encourage an expansion in world acreage.

The real question is whether China can meet its food needs without actively constraining meat consumption. With the Chinese government giving the green light for animal expansion, vegetable meal and coarse grain consumption will increase. The size and scope of the projects are impressive. Five thousand sow operations are being built to expand production, increase efficiency, and increase safety.

Higby Barrett believes the African Swine Fever (ASF) is enabling the Chinese government to meet many policy goals with minimum public outrage. China has always wanted to reduce non-point pollution, but the small hog operations are very important to the villagers. Another goal is to improve the safety and productivity of the hog operations. ASF is providing an opportunity to shift Chinese pork production from very small, inefficient operations to ultra-modern operations

Per Capita Income (annual)

	2000	2019	Change	Change
U.S.	$36,335	$65,281	$28,946	80%
CHINA	$959	$10,262	$9,303	970%
VIETNAM	$390	$2,715	$2,325	596%
MYANMAR	$190	$1,408	$1,218	641%
INDONESIA	$780	$4,136	$3,356	430%

Source: World Bank

that will greatly increase efficiency while dramatically reducing non-point pollution. The grain supply gap implies the transformation of the industry is occurring faster than reported. The quicker the pork supply gap can be filled with modern operations, the less likely the small operations will be able to return. For the above reasons, Higby Barrett believes China's pork industry is growing much faster than is being reported. Massive growth in modern operations is being offset by declines in smaller operations. As the modern operations gain market share, the sow productivity and weight gain efficiency will increase dramatically. The growing pork industry is dependent on world production of course grains and soybeans, which is a bullish outlook for exporting nations such as Brazil and the United States.

Brazil Currency Impacting World Acreage

Because commodities are quoted in U.S. dollars, the resulting price signal to Brazilian farmers in reais is record high prices and profits for four straight years. Higby Barrett believes the combination of high commodity prices and the currency impact will increase Brazilian 2021/22 crop acreage by 10.3 million acres. As a rule, once pastureland and forests are converted to crop land, they remain in production even if commodity prices decline. Higby Barrett assumes the world will continue to require more corn and soybean production. So, crop prices in reals will have to reach a price level that incentivizes Brazilian farmers to increase planted acreate.

Macro Inflation

Managed money is pushing the price of commodities higher as a hedge against a declining dollar, especially in the metal markets. It should be noted that what matters to future prices is not dependent on what eventually happens but what motivates someone to buy in the present. To that end, the following is the bullish mindset behind the massive inflation belief. The basic "Economics 101" classes in college taught that increasing the money supply and its velocity to stimulate demand in an economy is very likely to produce rising prices for goods and services. History shows this to be generally true.

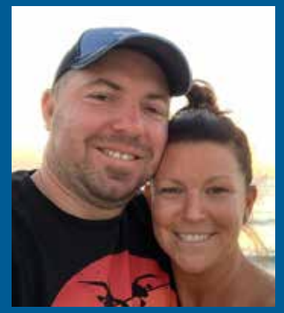
With the latest trillion-dollar stimulus bill, a potential 1.25 trillion infrastructure bill, along with future trillion-dollar stimulus bills being discussed, it is hard to believe inflation will be held in check. It must be pointed out, however, that the last time major central banks of the world moved to infuse significant liquidity into its financial systems just over 10 years ago, producer price inflation was not problematic. Still, the amount of monetary stimulus created during the 2008 financial crisis pales in comparison to what has been and will be created during the Covid-19 pandemic. It seems hard to fathom that central banks could be able to print so much money in such a short period of time, and still be able to escape "paying the piper" down the road.

The larger concern is the amount of money in the bond markets is estimated to be $130 trillion. So, if one percent of the bond money is shifted into futures, an additional $1.3 trillion enters the market. For perspective, open interest in the corn market is 650 thousand contracts at $2,025 of margin per contract equals a market size of $1.3 billion. The inflation play usually involves buying a basket of futures. The quantity of money entering the buy side on a wide range of commodities has the impact of creating a broad-based technical bull market, which attracts more money. The "hot" money can keep commodity prices artificially high for as little as six months or for years.

Keep up with the latest insights by following Higby Barrett on LinkedIn. **https://www.linkedin.com/company/higby-barrett-llc/**

Higby Barrett is a service-oriented company dedicated to delivering proprietary economic analysis of agricultural commodity markets and specialized consulting services for agribusiness and transportation industry sectors.

HOFFMAN IRRIGATION



With pivots in nine states in the Northeastern United States, Hoffman Irrigation has a lot of ground to cover.

Hoffman Irrigation is a family business that opened its doors in Federalsburg, Maryland, in 2004. A few short years later, they become a Performance Plus Dealer. It was then that manager Justin Hoffman says they really embraced technology.

"We started up with Valley Trackers, and then AgSense came along a few years later. Now we use a lot of remote management and ICON panels," he says.

Valley ICON® panels feature ICON Link, which provides access to real-time status of pivots and other inputs via solutions such as Valley 365.

Hoffman says their customers frequently use soil moisture monitors, often because of government funding for that particular technology. They're also using Valley 365 to monitor and control their pivots, and they are employing Pump Command, as well.

All the technology provides water, time and money savings for their customers.

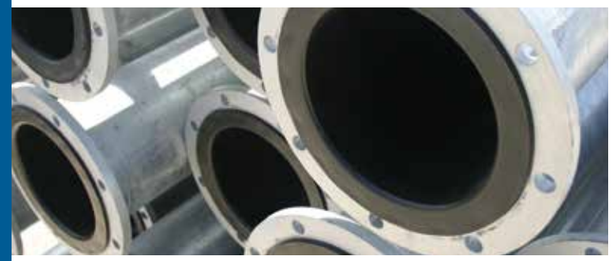
Changing Methods, Changing Services

Hoffman says when his father started in the business, pivots had a life of about 10 years because of the corrosive water, especially in Delaware and Maryland.

Now, nearly every pivot they install features PolySpan® – a polyethylene liner installed inside the span pipe. It can add years of life to pivots while keeping sprinklers free from rust particles, even under the harshest conditions.

"We have installed pivots on everything from sod farms to watermelon farms," Hoffman says, "just about everywhere it's possible to put them. So now we're trending toward maintenance and technology rather than installation. Some of our older machines are almost 20 years old, so we're changing out sprinklers instead of replacing entire pivots."

Before PolySpan, Hoffman Irrigation re-piped about 30 pivots a year. Today, they're down to about six re-piping jobs per year.



Covering More Ground

Hoffman Irrigation employs about 15 people, even with such a large territory to cover. Two years ago, they expanded into New Jersey, taking over for a retiring Valley dealer.

"We cover a large area, from Maryland to Maine, and even do some installation work for a Valley dealer in Virginia," says Hoffman. "We can do it all, it's just that we have to travel longer distances than some other dealers."

With the expansion and continuing advances in technology, the future is looking good for Hoffman Irrigation.

VALLEY®

BAS IRRIGATION

Kathy Sturkie jokes that her role at BAS Irrigation is simply "married to the owner." But in truth, she's a jack of all trades, handling parts, purchasing, payroll, payables and receivables.

BAS Irrigation is a family business. It was started by three partners in 1978, and purchased by Jim Sturkie in 1995. He's been in the irrigation business since 1979 – and he's worked with Valley the entire time.

"BAS was one of the earliest Valley dealerships," Kathy says proudly, "even before Jim purchased it. We stick with Valley because they're the best. Why would we go anywhere else? Valley makes a good product, and our customers realize that. If someone is shopping for quality, they know Valley is the way to go."

BAS Irrigation has its main office in Waynesboro, Georgia, with a second dealership in Statesboro, run by co-owner Jody Wilson. With about 18 employees, each of the locations covers a 125-mile radius, serving mainly cotton, peanut and corn growers. Nearly everyone in the area irrigates, as dry seasons are a way of life in Georgia.

> "PEOPLE ARE STARTING TO USE VALLEY 365 NOW, TOO. I'M JUST SO HAPPY FOR THEM BECAUSE THEY DON'T HAVE TO GO OUT IN THE MIDDLE OF THE NIGHT TO CHECK THEIR PIVOTS.
>
> **KATHY STURKIE**

Growing Through Technology

Pivots are important in the area, and BAS believes in helping growers make the most of their water and energy resources through technology. Sturkie says she has been amazed at the advances she's seen in recent years.

"The biggest, most accepted technology advancement has been AgSense," she explains. "Not having to go out to the pivot point to do anything – that is amazing to me. I don't even see roads going out to pivot points now! People are starting to use Valley 365 now, too. I'm just so happy for them because they don't have to go out in the middle of the night to check their pivots," she adds. "They can just check their phones to see what's going on. It's so much safer for them, and it's better for their way of life."

Better Service Through Education

Sturkie emphasizes the importance of leveraging continuing education through service schools. Every training course offers valuable knowledge to enhance their service capabilities.

"It makes a real difference," she says. "Even my husband, who has been in the irrigation business since 1979, learns something every year, especially with the new technology that's coming out all the time. Even though we have to stop whatever work we're working on, it's worth it. Every dealer should do it. Our customers can really tell the difference."

A conversation with **Drew Gholson,**

Assistant Professor and Irrigation Specialist at Mississippi State University, and the Coordinator for the National Center for Alluvial Aquifer Research

Besides teaching students, Drew Gholson works with farmers to implement better water management practices to decrease water use while increasing efficiencies and profitability. He also conducts research and works with new technologies that can help growers put those practices to work.

We recently had the chance to sit down with Gholson to discover what he's seeing in the field.

Q: Where does technology fit into water management practices?

A: It's involved in almost all of them. Whether we're able to control the pump or read soil moisture sensors from our phone, technology is making it easier. For example, when it comes to soil moisture sensors, we know we can use less water based on what the actual soil moisture is versus "It's Monday, we need to turn on the well."

We have a lot more technology when we're working with the farmers now – platforms and services that we're bringing to their phone and using. Even when we're talking furrow irrigation and flood, they're running through a computer program. Technology has evolved in every one of the irrigation management practices.

Q: What types of technology are you using, and what are the advantages?

A: We're in the mid-South, the Mississippi Delta specifically, so we use a lot of furrow or surface irrigation, and we have rice flood irrigation. So, we're looking at new technologies with pump automation and automation overall. That's what I want to work on with Valley and PrecisionKing™.

We're at the early stages of evaluating it, just seeing those promising numbers we're getting back from total water use and water efficiency. Typically, furrow, surface or flood irrigation is going to be on the lower end of water efficiency compared to pivots or even drops. But there's a reason they're continuing to irrigate this way in this area. So instead of ignoring the different practices because you could probably be switching to something more efficient, let's look at technologies that are available to increase what they are doing: soil moisture sensors and surge irrigation, but also new things that are going to help with automation.

Q: Can you expand on the potential that technology, such as Valley 365, has with regard to water management?

A: Valley 365 can help by tying multiple sensors and tools together under one interface. If a grower can log in – especially with these sensors, automated valves, pump controls and all these tools – into one easy-to-use application, we can see all of our fields and how everything is functioning. All management decisions can be tied together and that's going to be helpful.

Q: Is there any other way you see technology driving and advancing irrigation practices?

A: Making technology simple is very important when we're talking about producers taking on new practices or water conservation. Not because it's too much for them, but they have a thousand things going on and water management is just "something else." They try to do it the easiest way.

I do think you can reduce the amount of time if you're doing it all correctly and that's where I think technology can really drive it. We're not having to travel to the fields and check as much because you can see it from your phone. The more you can build confidence – whether that's with sensors or automation – the more you're going to trust what this shows throughout the season.

Q: How can this kind of water management help with water savings and sustainability overall?

A: Some of the management practices we're pushing to save water are just using the tools to make good management decisions at the right time. One example is that putting soil moisture monitors in the field won't save water on its own, but with enhanced technology it helps growers make water management decisions at the right time.

They'll use less water, but also less diesel fuel with reduced pump run time. From the labor standpoint, they're not driving out to the fields and burning fuel in their trucks nearly as much.

Q: Is there resistance from some growers who don't want to adopt new technology?

A: Yes, because they've had their successful practices for years. Many times, we can show how to save money by pumping less water, and it's easy. When we can prolong irrigation for a few days and catch that rainfall, they don't have to turn on that well.

Q: How can these technologies improve quality of life for growers?

A: With Valley 365, growers can see pumps are running and how much water is being applied instead of running to each field when they could be doing other things. They can do it with automation, less manual labor, and you can be anywhere and check status and how long your pump has been running.

One big advantage is being able to manage things at the right time, right from their phone, giving them a better quality of life.

PRODUCT SPOTLIGHT

Water Uniformity in the Corners = More Money in Your Wallet

Corner arms have added so much yield potential in the field helping you irrigate 14% more acres. However, getting proper water uniformity is a challenge. EnCompass™ from Valley delivers precision irrigation to every corner of every field.

Growers understand that the ability to create a more uniform water application means better crop health and higher yields. It's a simple way to increase your return.

How it works
EnCompass uses GPS data to automatically adjust individual nozzle control in real time. As it moves through the field, providing the exact application of water at every stage. EnCompass is easy to operate, and it works on all Valley corner machines with any water source.

Learn More
Get more details and see EnCompass in action here. You'll be amazed at how smart your Valley corners can be!

https://www.valleyirrigation.com/corners-benders-dropspan/encompass

valmont 75

This year, Valmont® celebrates 75 years in business. Valley® Irrigation dates back almost as far – to 1954 – and is one of our most recognizable brands, helping growers all around the world produce more with less.

Not many companies have the privilege of serving their customers for 75 years, and without you, we truly would not be here. We thank you for your support over the years. You have trusted us to meet your needs, and we pledge to continue doing so for many years to come.

It's our 75th anniversary ... and thanks to you, our story is just getting started.

Corn Warrior DAN LUEPKES Puts Valley Irrigation to the Test

Dan Luepkes is a record-breaking corn grower and has become a well-known social media influencer. You've probably seen him on Corn Warriors and his feature on Xtreme Ag.

Luepkes is a fifth-generation farmer who is known for making the most of his sandy soil in northern Illinois by implementing technology and irrigation practices. Now, he is upping his game with his latest Valley pivot install equipped with industry-leading Valley irrigation technology.

At Valley Irrigation, we're excited to see Luepkes put his new Valley pivot, Valley Insights and Valley 365 to the test in tough conditions.

Watch Luepkes as he gets "real" with Valley at **XtremeAg.farm** and on his social media channels.

Great financing options to meet your operation's needs.

$0 down

18 months before first payment
Rates as low as **2.48% for 5 years** or **3.03% for 7 years***

Rates as low as

2.43% for 5 years*

$0 down, 12 months before first payment

Rates as low as

3.00% for 7 years*

$0 down, 12 months before first payment

Offers end August 1, 2021

- Above interest rates are dependent on number of drive units and price of irrigation machine.
- Low rates apply to machine purchase only.
- Standard interest rates apply to ancillary equipment.

* Financing offers apply to purchase of a new 7000 or 8000 series machine that includes a pivot point or linear cart, control panel and sprinkler package. Above rates are based on a 7-drive unit machine at ($75,000) financed. Financing provided by Diversified Financial. Offers not available in Canada. Offers end August 1, 2021.

VALLEY
A valmont COMPANY

valleyirrigation.com