



A valmont  COMPANY

Return on Investment

Valley® Helps You Produce More While
Using Fewer Resources



The Leader in Precision Irrigation®



Dryland. Drip irrigation. Flood irrigation. Center pivots. Growers have many ways to get water to their crops. But different irrigation methods can result in dramatically different returns on investment.

For more than 65 years, Valley® has been the industry leader in center pivot and linear/lateral irrigation because we listen to growers' needs and understand the necessity of maximizing ROI. We engineer the most durable machines available and develop cutting-edge technology to help you maximize efficiency and sustainability.

We know your investment goes far beyond the irrigation machine in your field. You also invest in water, electricity, seed, technology, and more. In the present inflationary environment, the price of labor, fertilizer and crop protectants are at the highest levels ever seen – often many times more expensive than even one year ago. Valley machines are the best way to decrease labor costs and utilize increasingly scarce crop protectants. Engineered for productivity, efficiency, precision and reliability, Valley pivots and linears can help you maximize your return.



Valley Pivots vs. Dryland

Productivity



The timing of moisture can be just as important as the amount.

Around 20% of the world's harvested land is irrigated, but that irrigated land generates 40% of the global food production.¹ Using data collected from 1950-2015, average crops yielded between 210% and 250% more food when irrigated than when relying only on rainfall.² That's doing more with less. That's Return On Investment (ROI).

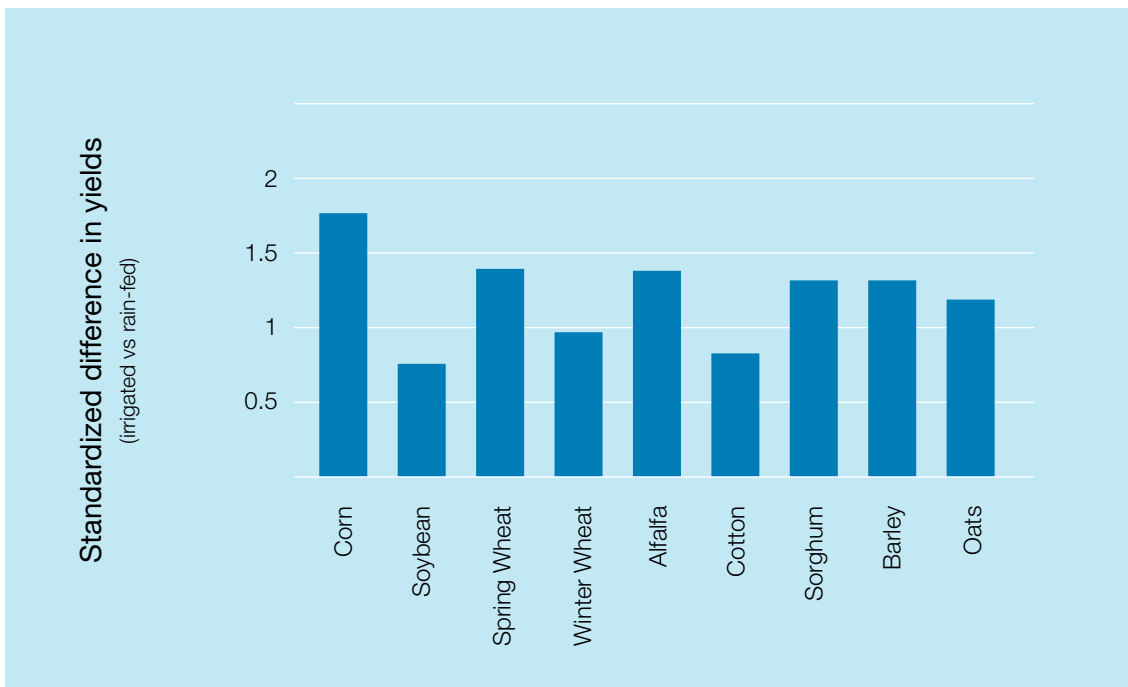
Farming without irrigation forces growers to depend on Mother Nature for enough water. Even areas that have adequate annual rainfall and productive soil can see great benefits from irrigation. Despite unpredictable weather patterns, center pivots allow you to irrigate with precision.

The correct amount of water exactly where and when it's needed can increase yields while reducing input costs.





Center Pivot Increases in Yields over Dryland Farming



Source: "Gap growing between irrigated, rainfed crop yields." cropwatch.unl.edu

Valley Pivots vs. Flood Irrigation

Precision and Reliability



As the world situation remains turbulent, markets fluctuate and inflation drives up the cost of many goods that are necessary for growers

- Fuel is more expensive nearly everywhere, and in some regions, the price of fuel has increased by as much as 47% in just one year. This makes everything from tractor operation to transporting crops much more expensive.

As war in eastern Europe affects areas relied upon for both staple crops like wheat and fertilizer like potash, growing operations are feeling the pinch.

- Fertilizer prices have increased 4-5x since last year.

Ongoing labor shortages due to a variety of factors including governmental policy and uncertainty regarding the pandemic increase the cost of labor.

- Farm labor wages increased 7.3% in 2021 and are forecast to increase an additional 6% in 2022.

REGULAR GAS

2021 avg. \$/gal. \$2.86
April 2022 avg. \$/gal. \$4.11

Source: gasprices.aaa.com/

DIESEL

2021 avg. \$/gal. \$3.08
April 2022 avg. \$/gal. \$5.04

Source: gasprices.aaa.com/

DIAMMONIUM PHOSPHATE (DAP)

September 2021 \$644/ton
April 2022 \$1,033/ton

Source: dtnpf.com/agriculture/web/ag/crops/article/2022/04/05/dap-fertilizer-price-now-highest-dtn

POTASH

April 2021 \$203/ton
April 2022 \$815/ton

Source: dtnpf.com

FARM LABOR

2020 \$14.62/hr.
2021 \$15.56/hr.
2022 \$16.49/hr.

Source: [USDSA National Agricultural Statistics Services \(NASS\) 2021 Farm Labor Report](https://www.nass.usda.gov/publications/2021-farm-labor-report)



Water is the #1 determining factor in crop yields. Why waste almost half of it with flood irrigation?

Traditional flood irrigation (also known as furrow or surface irrigation) is exactly what it sounds like – intentionally flooding the field to irrigate the crops. Because it's a low-tech way to irrigate the crop, it can lead to over-watering, and often results in runoff. Flood irrigation also contributes to salinity in the soil, potentially damaging land and diminishing yields.

The biggest downside of using flood irrigation is the amount of water that it wastes.

Because large amounts of water are applied to massive areas of land, the efficiency of this method can be as low as 40-50%. Soil and plants simply can't absorb water quickly enough to take advantage of the available water, so much of the water pushes quickly down past the root zone, and wastes valuable resources. The flooding process also saturates soil and stunts root activity until the ground is no longer saturated.

Pivots allow growers to use about half as much water as flood irrigation. Center pivot irrigation reaches 95% application efficiency or greater, depending on sprinkler package design, irrigation scheduling and agronomic practices.



Source: "Center Pivot Irrigation." Texas Agricultural Extension Service.

Valley Pivots vs. Drip Irrigation

Efficiency



Drip irrigation is certainly more efficient than flood irrigation. For some small or irregularly shaped fields, it might be the best option. It works by pushing filtered water through small emitters either directly onto or buried in the soil. However, drip irrigation is an expensive technology to install and operate, and is very labor intensive.

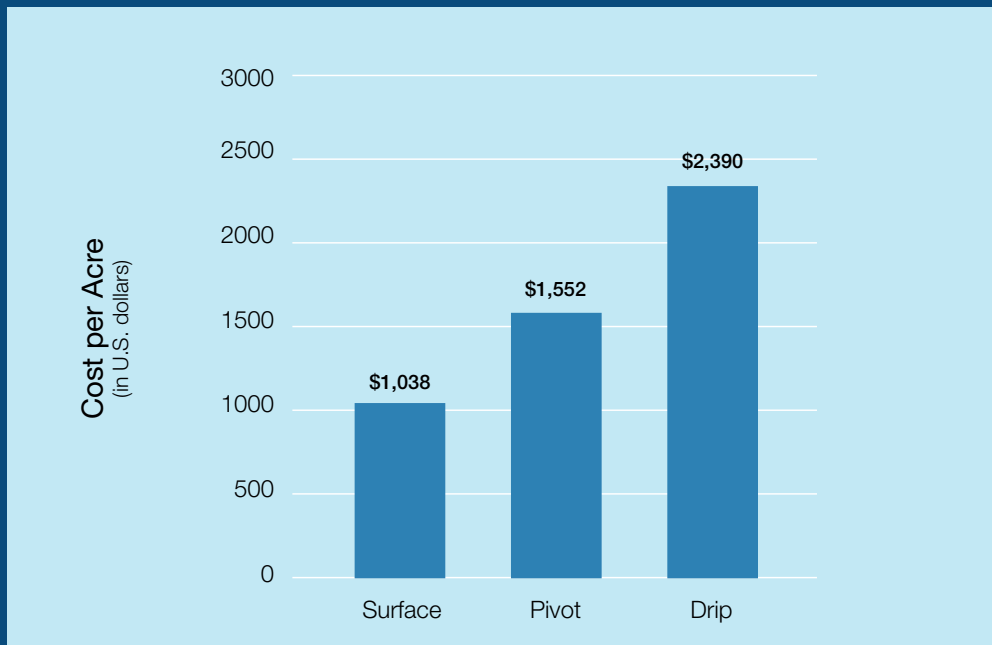
Irrigation operators must inspect emitters frequently, flush filters to help avoid clogging, and ensure leaks and plugged emitters are not affecting uniformity. Drip lines are prone to risk from rodents, for which little can be done, and drip irrigation can also lead to a build-up of salinity in the root zone, potentially reducing yields.

Pivots also last longer – 25 years or longer is normal for Valley equipment. The longevity of drip systems is improving, but that still depends on numerous factors, including error-free system management. Plus, even after 15 years of consistent work, Valley pivots retain 50% of their resale value. Sellers of drip systems cannot say the same.

Of course, any discussion of ROI should include initial investment cost. Center pivots are much less expensive than drip irrigation – more than \$830 per acre (\$339 USD per hectare) less.



Initial Investment Cost Comparison



Irrigation Technology

(Based on 133 acres. Includes well installation. Costs associated with land forming and installing underground pipe with risers for surface irrigation systems are not included in this comparison.)

Source: RMCG, "Comparison of irrigation system costs – update 2018"

Benefits of Center Pivot Irrigation



Precision – Pivot and linear irrigation give growers the ability to uniformly apply the correct amount of water at the right time. This precision is further increased with technology such as Valley Scheduling™ and Variable Rate Irrigation.

Labor and time savings – With remote management, one person can monitor and control multiple machines covering thousands of acres. Unlike flood irrigation, there is no need to move pipes. Unlike drip irrigation, there is no need to spend hours walking the fields every day, because it requires only 30-40% of the labor needed to operate drip installations.

Simple maintenance – Maintenance of pivots and linears is simple and inexpensive. The average annual cost to maintain a drip system is 7-10% of the initial investment. Maintenance of center pivots is 1% of the purchase price per 1,000 operating hours each year.

Versatility in water source – With center pivot and linear/lateral irrigation, a grower can irrigate with any water available, from well and river water to runoff and reuse water. SDI (subsurface drip irrigation) may require extensive filtration and routine chemical applications.

Water efficiency – Center pivot and linear/lateral irrigation save money and conserve water by giving operators the control to apply precise amounts of water to crops only when and where needed. Variable rate irrigation (VRI) is not possible with drip irrigation, and flood wastes half (or more) of the water applied.

Germination – Pivot and linear/lateral irrigation can be used for quick and easy germination of all crops, ensuring the best possible plant population to get the crop started right. It also activates pre-emergence herbicides, which is not possible with flood or drip.

Fertigation – Application of fertilizers and crop protectant can be applied through pivots and linears.

Crop rotation – Pivots and linears/laterals provide growers the ability to irrigate multiple types of crops without making changes to the equipment every year. Also, one irrigation machine can accommodate multiple crops.

Soil protection and retention – Installation of center pivot or linear/lateral irrigation requires no tillage or furrowing, so the soil can stay where it's needed. It not only reduces salinity buildup, but it can also apply water at the right time to flush salts below the root zone without waterlogging the soil.



ROI Comparison	Flood	Drip	Pivots
Increased Yields Over Dryland	✓	✓	✓
Precision		✓	✓
Labor/Time Savings			✓
Simple Maintenance	✓		✓
Versatility of Water Source			✓
Water Efficiency		✓	✓
Germination			✓
Fertigation			✓
Crop Rotation	✓		✓
Soil Protection			✓
Reliability			✓

It all adds up to greater ROI – Center pivot or linear/lateral irrigation machines can last more than 25-35 years with proper use and maintenance, and they retain their value. Plus, with savings on inputs like water and electricity, labor and time, along with an increase in yields and crop quality, the return on investment can happen in just a few growing seasons.

Valley Irrigation Machines

The Choice for Maximum ROI



Superior Strength

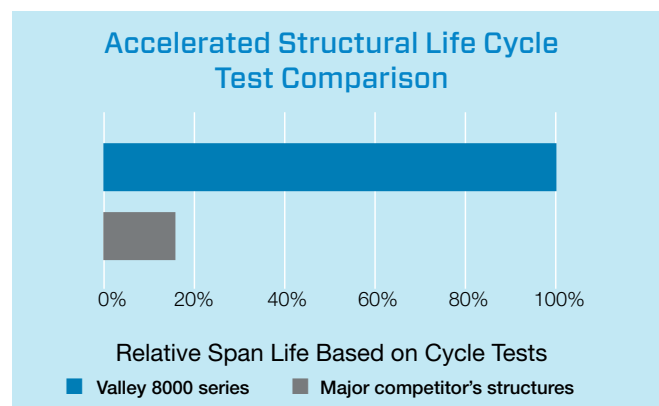
Each Valley machine is built to last for decades with regular maintenance, even on rough terrain and in tough conditions, maximizing your irrigation uptime in the heat of the growing season. Along with minimal repair expenses, this durable construction means your investment can be spread out over more years of use – for maximum ROI.

The unique design uses vertical support members and diagonal tubular bases, which eliminate high stresses and strains from the pipeline. The truss angles and rods are standardized so they're easy to install and service. The pivot assembly, pipeline, drive units and bracing are all protected with high-quality galvanizing.

Valley engineers the structure to ensure field loads are uniformly distributed. Uniform loading, combined with the best drive unit design, make Valley pivots the most resistant to ruts and twisting in a variety of field conditions. Through engineering excellence, Valley is recognized as the industry leader.

Durable Drive Trains

Valley machines have the most reliable drive trains in the business. The drive train is made of a wheel gearbox and mechanized center drive. Valley is the only center pivot company that produces its own gearboxes. The industry-leading Valley gearbox is life-tested and quality checked throughout the process to ensure we are constructing the most reliable and structurally sound gearbox available. The center drive has a long-lasting, reliable motor with extra-large intermediate gear bearings for longer life.



Valmont Irrigation tests certified by independent consultant Dr. James D. Summers, P.E., 2003.



Stronger Spans

While a pivot provides uniform water application, there is no such thing as a completely uniform farm field. With so many sizes, shapes and terrains to handle, there can't be a one-size-fits-all irrigation machine. That's why Valley has many choices in quality span lengths, giving growers more ways to optimize and customize their machine design to specific field conditions.

Valley pivots are designed, engineered, constructed and field-tested to handle all kinds of operating stresses. Spans range in length from 136 feet to 225 feet, with a maximum machine length of 2,800 feet. Each span is hot-dipped galvanized steel, which is designed to stand up to the elements and provide years of corrosion-free service.

Corrosion Protection

PolySpan® resists corrosive elements in irrigation water. Because it is made from an inert material, which does not react with chemicals, there's no limit on pH, sulfates, chlorides, softness or crop protectant products. It's an excellent choice for growers who apply crop protectants and fertilizers through irrigation water.





Ukraine and Russia produce 15% of the world's wheat, including one-third of total wheat exports. The United States consumes more than 30 million tons of wheat annually.

Source: worldpopulationreview.com



Feb. 2021 wheat/bushel \$6.51
 Feb. 2022 wheat/bushel \$12.09

Source: www.macrotrends.net



Field studies during 2018-19 demonstrated the ROI possible with smarter irrigation decisions. Potato fields with Valley Scheduling averaged 13 cwt/acre greater yield with an estimated \$24,626 (USD) additional revenue compared to fields without. In another study, silage corn yield increased by 20% with an estimated value of \$22,825 (USD) in extra revenue. Both of these examples represent an ROI of 14x!

In a 2010 field study, the use of VRI addressed field variability, and light textured soils yielded well, even in a dry year. Also, 12% less water was applied by using the VRI prescription across the field, reducing water and energy use.*

**Variable Rate Irrigation 2010 Field Results for Center Plains Conference. Jacob L. LaRue, Valmont Irrigation.*



Advanced Irrigation Technology

Making even greater ROI possible

Valley offers the most advanced irrigation technology available, so you can do more – simply.

Connected Crop Management

Valley 365® - is the next-level solution that unites the best features of our top-rated remote management solutions into one easy-to-use interface. Valley 365 is organized into intuitive modules:



Forecast & Plan with Valley Scheduling™

Improve water application, save money and increase productivity with award-winning Valley Scheduling technology. You can receive data on soil moisture, crop type, stage of development and automatically updated weather information, then get easy-to-understand irrigation recommendations for multiple days based on real field data. The recommendations are delivered right to a simple dashboard on your smartphone, tablet or desktop PC.



Optimize & Apply with Variable Rate Irrigation

Every field is different. Even within fields, there are variations in soil type and topography. With Valley Variable Rate Irrigation (VRI), growers can Optimize & Apply their water in the most accurate way possible, based on field-specific irrigation prescriptions.



Monitor & Control with industry best remote management

The tried-and-true power of AgSense technology gives growers greater control in real time so they can manage everything from pumps to pivots and more. When you can Monitor & Control their irrigation from anywhere at any time, you have the freedom to spend time on other duties around the farm, or on family activities you used to miss



Plus, Get Access to Valley Insights® from Valley 365

Using various types of imagery and artificial intelligence algorithms, Valley Insights®, powered by Prospera, virtually scouts fields for crop health concerns. Leverage the insights to adjust pivots, maintain crop uniformity, and reduce overall input costs by focusing only on the relevant areas of fields.

* Currently available in select regions

Irrigation Controls – Smart Panels

Valley ICON® Series – Total Pivot Management at Your Fingertips - We designed our smart control panels to decrease the time and effort you spend, eliminate unnecessary visits to your field, and give you the control you need to manage your irrigation operation simply and efficiently. Connect all your fields and technology on one platform with Valley 365 built in* – ICON Link is installed standard.* Plus, protect your investment with cable theft monitoring.*

* Additional hardware or subscription required.

The Final Component



Putting the grower first is not just a slogan at Valley; it is part of our culture.

Unsurpassed Service from the Industry-Best Dealer Network

Valley dealers are your partners – their extensive knowledge and experience lets them find new ways to irrigate those difficult acres, make an operation more efficient, discover new practices for conserving resources, deliver a return on investment and make life simpler through technology.

The bottom line: Your Valley dealer can help you achieve a higher return with top-of-the-line irrigation equipment and technology. Call your Valley dealer today.

valleyirrigation.com



See your local authorized Valley dealer for complete details.

Valmont® Irrigation has a policy of continuous product improvement and development. As a result, certain changes in standard equipment, options, price, etc. may have occurred after the publication of this brochure. Some photographs and specifications may not be identical to current production. Your local Valley® dealer is your best source for up-to-date information. Valmont Irrigation reserves the right to change product design and specifications at any time without incurring obligations.

©2022 Valmont Industries, Inc., Valley, NE 68064 USA. All rights reserved.

GL1060 0622