



**McBride Office**

2071 E. Main Street, McBride, MI 48852

**Vassar Office**

4802 West Caro Road, Vassar, MI 48768

**Battle Creek Office**

14265 Beadle Lake Road, Battle Creek, MI 49014

**989-762-5028**

**www.MVI.farm**

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**THE NEWSLETTER FOR THE MICHIGAN AG INDUSTRY**

What strange times we are witnessing. Our hearts go out to the healthcare workers and first responders, as well as the families effected by COVID-19. Michigan Valley is endeavoring to maintain support for our farmers, wastewater managers, and other critical infrastructure associates. We take pride in the affirmation that our products and services are considered vital to national economic security and public health and safety, as designated by the Department of Homeland Security (CISA.gov). We thank you for your support as we adapt policies and procedures to best adhere to CDC protocols while providing the services and products you require.

**JOHN M. MCGEE**  
**PRESIDENT**

## **RETURN ON INVESTMENT**

Return on investment is generally considered the gain or loss generated on an investment, relative to the amount of money invested in the asset. In my world of agricultural irrigation, the majority of farmers I work with are interested in the returns they will gain from investing in irrigation compared to other assets that may benefit their business. When a Michigan grower thinks about where he will invest his hard-earned money, he will often try to determine which investment has the best return. Should irrigation be the next thing to spend money on, or should it be the farm next door, a grain bin, or maybe a tractor? I consider it my responsibility to help them evaluate what type of return on investment can be realized by investing in an irrigation system for their farm.



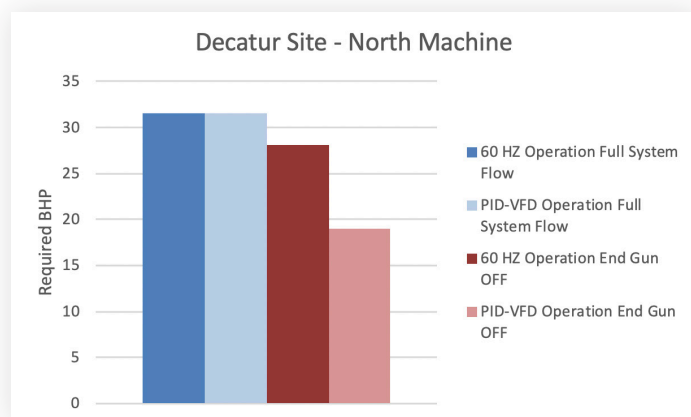
This is my favorite part about what I do for you. I enjoy investments and love watching them grow. Taking what you already have (land) and improving the return by reducing reliance on mother nature providing timely rain. What will it cost to irrigate acres on your farm? I can calculate a cost per acre to irrigate any given field, as well as how infrastructure costs can be spread over several systems. This will help to determine where to start and compare that field to future developments on your farm.

I make a living helping farmers develop their land with irrigation. From getting permission to pump water, drilling for water, getting the most efficient energy source, installing a center pivot and then connecting it all together, I will work with you. Finding the most practical options that create an efficient system for your farm is very important to me. Before any drilling, building, or power connection begins, we will crunch the numbers and through thoughtful analysis, good planning and some calculated risk, we can determine what the return on investment will be on your farm. Let me help you make an informed decision.

**CLAYTON IRANI**  
**SALES**

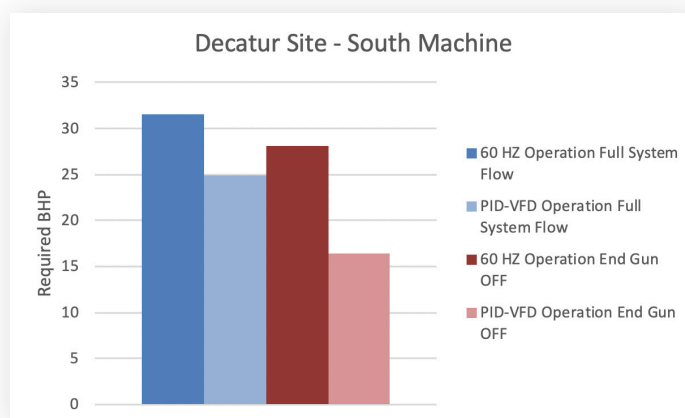
# WHAT IS A VFD AND HOW CAN IT SAVE YOU ENERGY?

A VFD or Variable Frequency Drive is a device that can be programmed to respond to the demand required by an electrical motor. The benefit is most clearly apparent when varying demands are placed on a single motor like powering a well pump. Following is an example of a well providing water to two different center pivots, the south machine being smaller.



The bar graph for the Decatur Site – North Machine, shows the pump motor using 60 hertz of power both with and without a VFD when the machine is operating at full power and the end gun is on. Blue Bars – 500 GPM and 41 PSI. Red Bars – 370 GPM 61 PSI at pivot point with end gun on and 41 PSI required with end gun off. By having a VFD programmed to adjust to the decreased pressure required with the end gun off, you will save 32% of the horsepower.

The bar graph for the Decatur Site – South Machine, shows the pressure required at the pivot point at full flow of 500 GPM's, is only 32 PSI while the pump is producing 48 PSI. (Blue Bars) In this case the VFD saves 21% of the horse power. When evaluating the same machine with the end gun off, the demand is for only 370 GPM's with a pivot point pressure of 71 PSI compared to the needed pivot point pressure of 32 PSI. (Red Bars) Having a VFD properly programmed in this system will have a 41% power savings with the end gun off.



Situation Summary – While these two machines are tipped for 500 GPM with the end gun on and 370 GPM with the end gun off, the pressures demanded and delivered vary significantly. The North machine has water delivered at 41 PSI which spikes to 61 PSI with the end gun off. The South machine pressure spikes from a delivered 32 PSI with the end gun on to 71 PSI when the end gun is off. In both cases this pressure is wasted energy as it is not needed to operate at the design point.

Common situations that create the greatest potential benefit from incorporating a VFD into your irrigation system are:

- Any machine with a corner arm
- Two or more machines that vary significantly in size
- Two or more machines that vary in size and end gun usage

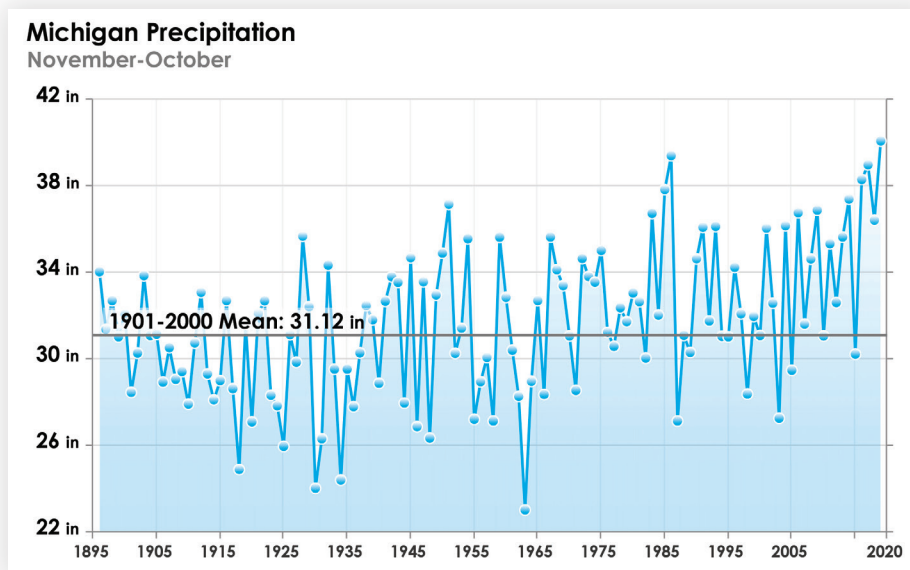
At times a VFD is required by a power provider to soft start a larger motor, especially near the end of a line.

Many of the power providers offer rebate programs for including VFD's in your projects that can help offset your initial investment. If you have more questions, feel free to ask, we are here to help!

**PETE PHILLIPS**  
SALES

## DO WE REALLY NEED IRRIGATION IN MICHIGAN?

While the average amount of annual precipitation in Michigan is 31.12 inches, it is seldom that amount, as shown in the chart below. Volatility is the norm with weather patterns. When you consider that often half or more of that precipitation occurs from October through April, supplemental irrigation may improve yields.



A high yielding corn crop requires 18 to 20 inches during the growing season. The highest water demand is from V12 through R1 or silking stage. Looking at the chart, it indicates that half of the years since 1950, we should be OK, as long more than half of the annual precipitation is received during the growing season. For many of those "other" years, we are likely to be well below the needed precipitation during the growing season.

Can you get more yield using supplemental irrigation, to ensure that the water will be there when it is needed (highest plant demand)? Can we prevent a crop disaster on the years that annual precipitation is well below normal? What is the value in preventing a crop disaster? Some lenders I know have said that it can take several years to recover financially from a major drought year. When you consider the opportunity to save a crop one year in five and boost your yield in three of the remaining years, how will that factor in your decision to irrigate?

Every farm has its own set of variables. Soil type, tillage practices, crops grown, and usage of cover crops are just a few items that vary greatly from your operation to your neighbors. I encourage you to consider your farm and its own unique set of circumstances. It's quite possible that one or more fields could benefit from irrigation.

**PETE PHILLIPS**  
SALES

# MVI Newsletter Spring Edition 2020



## Preventative Maintenance Early Order Kit

- 1 Contactor, 25 AMP / 120v
- 1 Pressure Switch - Booster Box
- 2 Micro-Switch Electric (Tan)
- 1 68 RPM US Motor / Gearbox
- 1 Universal Gearbox - Blue
- 4 Flex Joint / HD Non-Towable
- 1 Overwatering Delay Timer

**for only \$1500!**

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order yours today!**

## UPCOMING EVENTS

Aug 11-12 ————— Exhibiting Agro Expo

Clayton Irani of Michigan Valley Irrigation will be speaking, so we invite you to come learn how we can help you develop your land using the latest technology and irrigation practices.



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