

# Irrigation Scheduling Grower's Guide

For North America



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# Save water, save power, and conserve resources

If you're like many other growers, you wish you had an easy way to know how much and when to irrigate. What if you could be more confident in your irrigation planning? With a well-designed irrigation plan based on your specific field conditions and crop needs, you can ensure a consistent and reliable water supply to your crops throughout the growing season, improving yields and reducing the risk of crop failure — without relying on your neighbor's intuition.

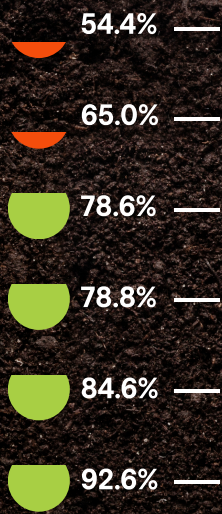


**With Scheduling, we know exactly when we need to put the water down and in the correct amount.**



**Alex Hawman**  
Hawman Farms | Hermiston, Oregon





**Effective irrigation planning involves a range of considerations, from choosing irrigation systems to managing water resources and scheduling irrigation events. You must consider soil type, crop water requirements, weather patterns, and water availability in developing your irrigation plans.**

Irrigation planning requires farmers to stay updated with the latest technologies and techniques, including advances in irrigation system design, water conservation strategies, and data-driven decision-making tools. By keeping up with these developments, you can optimize your irrigation practices and improve the health and productivity of your crops.

In this guide, we will explore the key components of farm irrigation planning with data collected from your farm devices and an app called Scheduling. Scheduling uses the most trusted and reliable modeling software available, proven on over 5 million acres around the world. With this combination, you'll get customized information about when, where, and how much to irrigate based on your specific crop, soil, and weather.



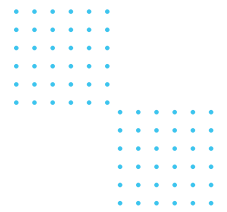
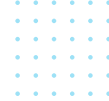


# What is Scheduling?

Scheduling is an advanced technology that was formerly known as Valley Scheduling. Scheduling provides easy-to-understand irrigation decision information based on real, scientific data about your soil, crop type, growth stage, and automatically updated weather conditions.

Our irrigation specialists can work with you to obtain the best monitoring equipment and information to allow Scheduling to provide the most accurate irrigation decision information for your crops.





# Benefits of using Scheduling

Why it's smart to use Scheduling



## Use resources more effectively

Irrigate the right amount, in the right places, at the right time, which saves you money.



## Save time

No need to gather the data or do the calculations yourself — we do it for you.



## Adapt to the weather

Make real-time adjustments based on your local rainfall and climate conditions.



## Improve crop health & yield

Monitor soil moisture to reduce disease potential, manage crop stress and improve yields.



Don't be afraid to embrace technology like Scheduling. There are a lot of proven products out there. They make you more efficient. They work right to your bottom line, and that's what keeps us competitive in the industries that we're in.



**Greg Juul**

G2 Farming | Hermiston, Oregon



# Improve irrigation and yields on farms, large & small

There are a variety of reasons why farmers love Scheduling

## Conserve water

For some farms, access to water is a major consideration when looking at irrigation planning technology. Scheduling provides a huge advantage. Over the past 15 years, our customers have had up to a **14x ROI, and reduced water use by as much as 10–12%** while improving yields and saving on the costs of running their irrigation equipment. The reason: When access to irrigation water is limited, Scheduling can be used to strategically manage irrigation.

## Strategically manage irrigation

- Maintain adequate soil moisture reserves when water is limited.
- Avoid over-irrigation early in the season so there's enough for maintaining yield later if the supply is limited.
- Provide enough soil moisture to get through periods of electrical load control.

Scheduling's decision information takes the crop root depth into account to help avoid over-irrigation which saves water, saves electricity, leaches less nutrients, maintains yield and reduces irrigation system wear and tear.

## Meet irrigation management requirements

Need to document your irrigation use for government incentives or environmental stewardship requirements? **Scheduling exceeds the requirements** of Irrigation Water Management Practice 449 for Conservation Stewardship Plan or EQIP contract with the NRCS. It provides daily evapotranspiration (ET) and rainfall, hourly soil moisture readings, and a forecast of the amount of irrigation needed during the next seven days based on the crop growth stage and the weather forecast. All this information is available 24 hours per day, 7 days per week, on web and mobile apps.

Customers have had as much as **14x ROI** reducing water use by as much as **10–12%**

Scheduling exceeds the requirements for the Conservation Stewardship Plan





## Maximize yield

Many crops require water stress at a certain point during the season to maximize their health and yield. Water stress affects grain yields more severely if it occurs during the reproductive stage than during the vegetative phase. Some crops, such as corn, appear to be more susceptible to fruiting period stress than others. Some crops are more stress resistant, such as certain sorghum varieties. Excessive irrigation can cause root rot and other issues. Knowing exactly what your soil moisture levels are across all of your fields with a tool that automatically calculates the necessary irrigation based on your weather will help maximize the health of your crops and your yield.

Getting irrigation planning information has never been easier







# How it works

Our service provides irrigation decision information you can trust — proven on more than 5 million acres worldwide for over 15 years.

1

## Gather the data

An expert collects data about your crop type, soil, irrigation type, and more. We recommend using your own soil moisture probes and weather stations for the most accurate irrigation decision information, but you can also use modeled data and a local weather station.

2

## Platform setup

Our team sets up your account and inputs the data into the platform so it can do all the irrigation calculations for you based on your specific needs.

3

## Create your daily irrigation plan

Use the Scheduling app on your phone or desktop to review your tailored irrigation decision information, which is updated daily. The easy-to-use dashboard lets you know when and where to apply irrigation.

## Setup options

The amount of time your setup takes depends on the number and type of devices you already have in your field. (If you've got Valley & AgSense devices in your field, some of the setup is already complete.)

- Our team of experts can set it up for you.
- Some trained local dealers or agronomists can set it up for you. Contact us to learn more.

## Flexible options that grow with you

Scheduling is extremely flexible & can meet your needs over time. For example, you can use a virtual weather station to start. If, down the road, you add your own weather station in your field, you can use that data instead for more accurate weather conditions.

If you rotate crops, Scheduling has you covered. Crop type information can be adjusted when you rotate so you'll get an updated irrigation schedule specific to your current crop.



# Irrigation Planning Dashboard

Get a quick overview of the soil moisture status and irrigation requirements for your farm.

## Irrigation Forecast

View the forecast of needed irrigation for all managed fields on your farm. Select your field from the interactive map. The irrigation forecast shows the expected irrigation needs over the next 4 days. You can also see a 7-day forecast by selecting a field from the interactive map. Each day of the forecast has a color-coded bubble that represents the available soil moisture and the irrigation needed to meet crop demand and refill the soil to field capacity. The forecast is updated at the end of each day by default. You can adjust your preference to forecast on an hourly basis if you prefer.

Bubbles indicate what will happen if you do not irrigate over the next four days. Clicking a day in the forecast reveals additional information and recommendations, including pivot speed, hours of irrigation needed, degree days, forecasted rainfall, and reference evapotranspiration.



- Blue: 100% of field capacity or above (%FC)
- Green: Good range of available moisture based on the sensitivity and growth stage of your specific crop
- Yellow: Approaching the stress point
- Red: Irrigation is needed to minimize stress



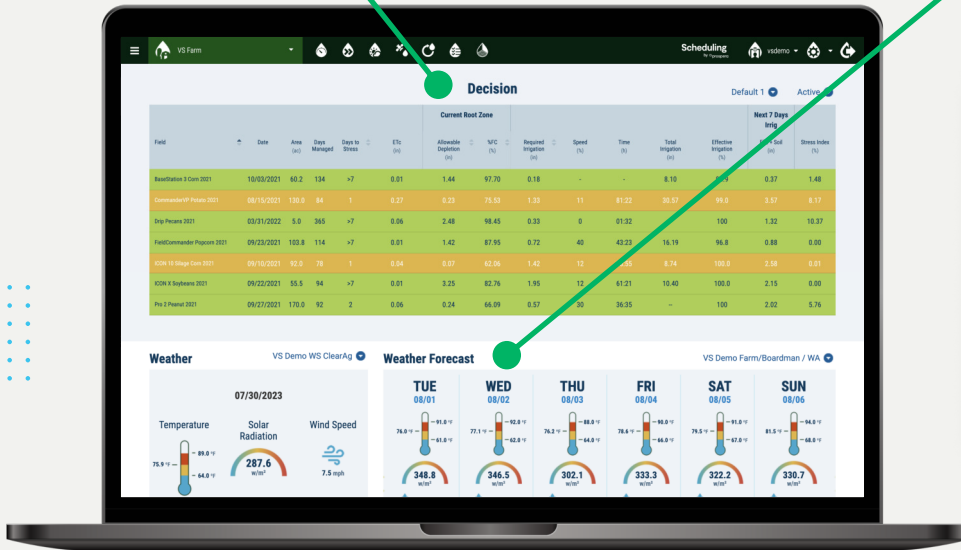
# Irrigation Planning Dashboard

## Decision Table

Get a customizable view of all the current data for all of your fields in a convenient list view.

## Weather Forecast

Yesterday's weather and the forecast for the next 7 days.



It's overwhelming that this technology works so well. It's completely trustworthy, and it's a very handy and convenient technology.

**Tim Schmeckle**

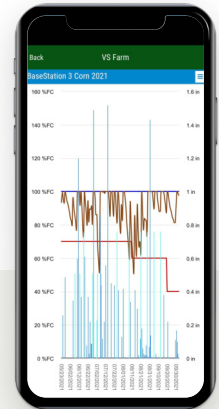
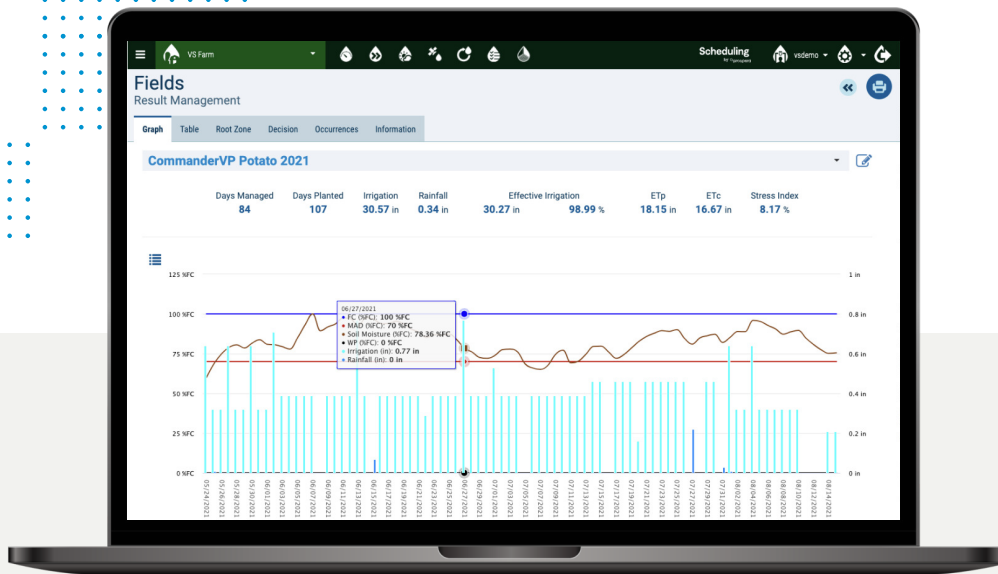
Schmeckle Farms, Inc. | Gothenburg, Nebraska



# Fields Results Management

## Irrigation Management Graph

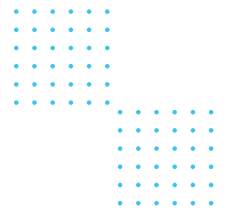
Irrigation management summary – create a custom view for any of your managed fields. You can see a summary of totals for the season for the field shown, the number of days the data was recorded, total irrigation applied, total rainfall, how effective the irrigation was, potential ET (ETp), calculated actual crop ET (ETc), and stress index for the field.



By following the recommendations, we saved water and power, especially earlier and later in the season.

**Chris Van Belle**

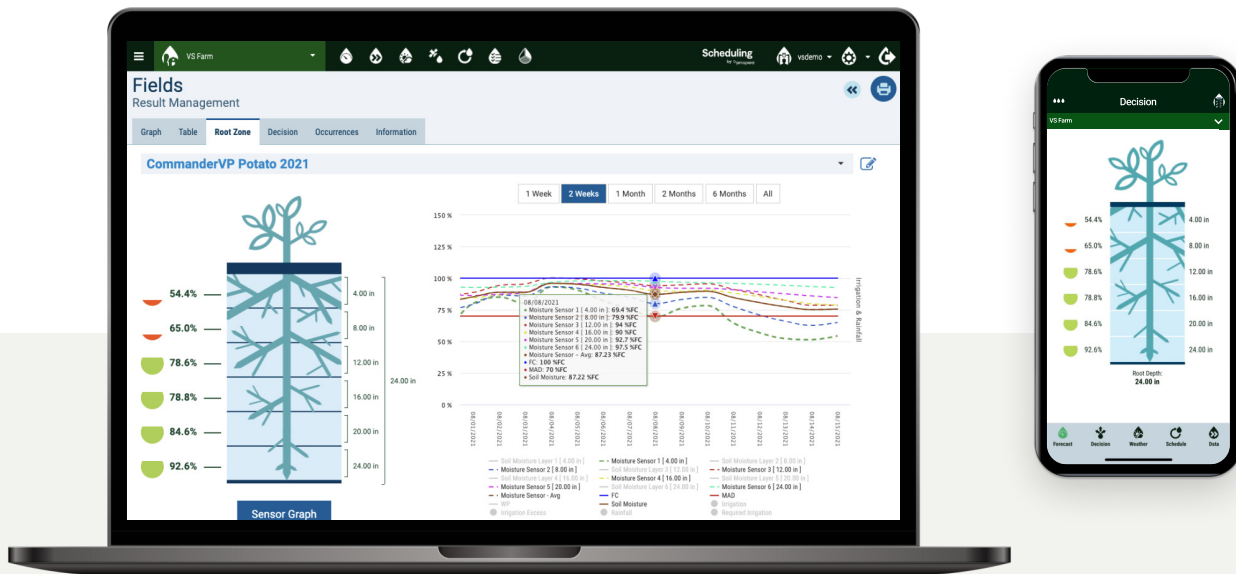
VB Homestead Farms | Yakima Valley, Washington



# Fields Results Management

## Root Zone

On the Root Zone tab on the web app, you can view an image of the root zone model. The root zone visual is also available on mobile. The root zone image and information changes based on your specific crop's growth and the moisture content at each layer.



Scheduling paid for itself in time savings and accuracy of decisions.

Fred Evans

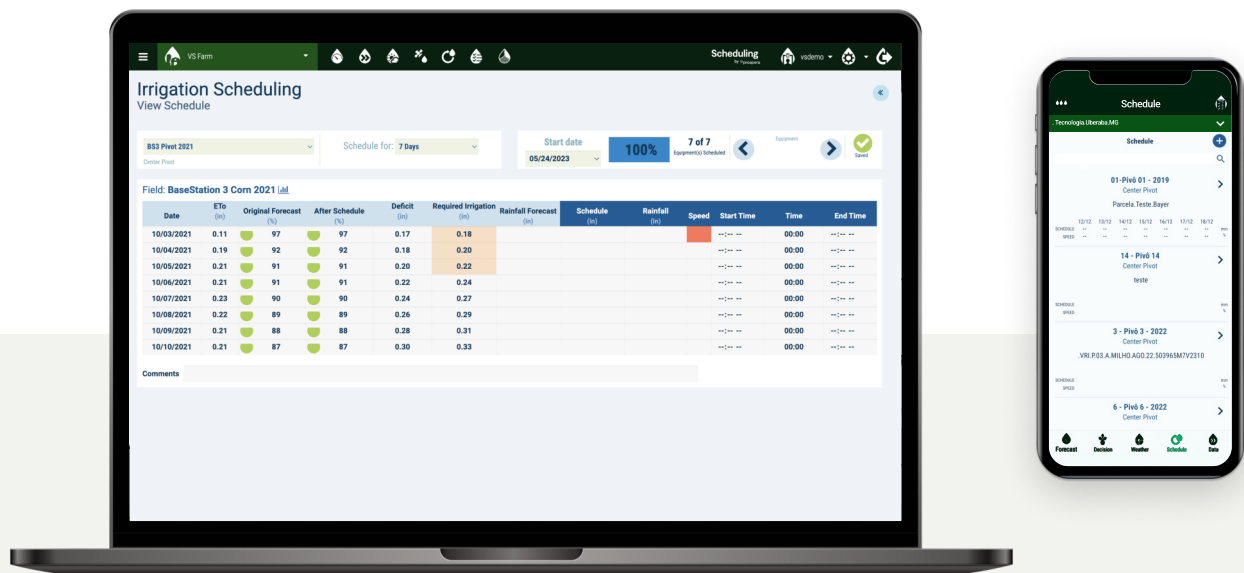
Evans and Sons Joint Venture | Moses Lake, Washington



# Irrigation Scheduling

## Create & View an Irrigation Schedule

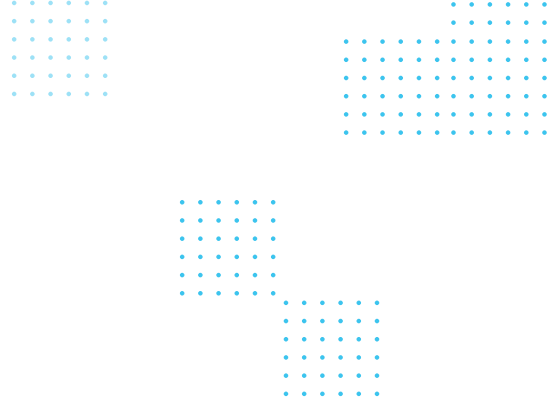
You can create a schedule to share with your irrigators or others by email or printed hard copy. The schedule also appears on the mobile app and can be created on the mobile app as well. You can also create irrigation schedule scenarios and test the outcome ahead of time.



Scheduling helps you raise a better crop in the end because you're putting on the right amount of water.

**Kevin Hawman**

Hawman Farms | Hermiston, Oregon



# FAQs

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## What crops can I monitor with Scheduling?

Scheduling can be used with any crop. We have used it for more than 90 different crops and can customize the configuration for any crop.

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## Will Scheduling work on my phone?

The Scheduling mobile app is available for Apple iOS and Android OS, as well as on your desktop computer or tablet.

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## Will Scheduling appear on my BaseStation3 app?

Yes. Scheduling is designed to connect with BaseStation3 to import irrigation amounts and, at minimal additional cost, display the Irrigation Forecast and current moisture status for each monitored field. It will appear on BaseStation3 desktop and mobile apps.

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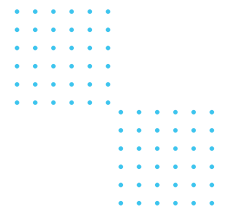
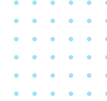
## Does Scheduling meet the requirements for irrigation scheduling in my Conservation Stewardship Plan or EQIP contract with the NRCS?

Yes. Scheduling exceeds the requirements of Irrigation Water Management Practice 449. It provides daily ET and rainfall, hourly soil moisture readings, and a forecast of the amount of irrigation needed during the next seven days based on crop growth stage and the weather forecast. All this information is available 24 hours per day, 7 days per week on web and mobile apps. Consult your local NRCS Conservationist for any specific local requirements.

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## I don't use Valley irrigation systems. Will Scheduling still work for me?

Yes. Scheduling will work with any irrigation brand and any type of irrigation.



# FAQs

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## **Do I have to irrigate with a center pivot to be able to use Scheduling?**

No. Scheduling is used with conventional (solid set) sprinklers, drip irrigation, microspray irrigation, hose reels, and linear. It can also be configured for flood and furrow irrigation.

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## **I don't use AgSense or Valley controls on my irrigation equipment. Will Scheduling still work for me?**

Yes. Scheduling will work with any brand or type of irrigation. If you do not use AgSense or Valley irrigation control, we highly recommend using a soil moisture probe.

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## **How many probes do you recommend per field?**

It depends on soil variability, field size, and monitoring goals. Typically, for most fields and crops, one is sufficient.

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## **Do I need a soil moisture probe to use the service?**

Scheduling is designed to work with and without soil moisture probes. Without a soil moisture probe, Scheduling works best on fields with minimal runoff and accurate data for daily rainfall and irrigation amounts. You may also wish to have a periodic inspection of your soil moisture by a qualified individual.

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## **Can I use any type of soil moisture probe?**

You can use any SDI-12 soil moisture probe or set of sensors that report soil moisture in volumetric water content and is listed in the AgSense Aqua Trac configuration options.

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## **How do you know the soil type?**

We consider data from published soil maps and the actual soil moisture readings from the moisture probe.

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# FAQs

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## What type of weather data does Scheduling require?

Scheduling requires hourly or more frequent temperature, humidity, wind speed, and solar radiation readings. It is designed to work with AgSense, Davis WeatherLink, or Pessl Metos weather stations. For many locations, we use virtual weather stations that are specific to your farm's GPS coordinates. DTN ClearAg provides the data based on local conditions and weather satellites.

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## Does my AgSense subscription include Scheduling?

No. They are separate subscriptions so that farms can select the number of soil, weather, and monitoring sites that best meets their needs. Scheduling is a separate subscription license per field. This provides farmers more flexibility since every farm is unique.

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## Can I use any type of soil moisture probe or communication device with Scheduling?

No. Scheduling is only designed to work with Aqua Trac Pro and Aqua Trac Lite communications to deliver the soil moisture data to AgSense/Wagnet.

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## Will Scheduling work with the local University or Public Weather station network?

No. Scheduling will work with AgSense, Davis WeatherLink, or Pessl Metos weather stations. It is not designed to import weather data from other weather stations or networks.

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[Talk to an expert to get started!](#)

