

9 Tips to Select the Right GREENHOUSE IRRIGATION SYSTEM EVERY TIME

Your greenhouse irrigation system delivers the life-giving water that sustains your plants. If you spend the time to properly select a watering system that matches the way you choose to cultivate, you'll find it irrigates more efficiently and effectively.

How do you find the right greenhouse irrigation system for you? Consider these nine tips.





TIP 1

ASSESS YOUR GREENHOUSE SIZE AND SETUP

WHY IT'S IMPORTANT

The size of your greenhouse and how you organize it dictate how much of a scale you will need to go to with your irrigation system.

Large operations with plants filling the greenhouse as far as the eye can see might need a more advanced system with automation that handles multiple zones and irrigation schedules, but small operations, with plants easily in reach, might favor a less elaborate system.

What to do: Evaluate your greenhouse footprint and the arrangement inside, including benching

configurations, equipment set-ups, specific workflow areas, frequent high-traffic areas, entryways/exits, etc., and how this will impact the design of your irrigation system.

Pass this information on to your system designer, so they know what constraints they must work around to give you adequate irrigation coverage throughout the greenhouse. This helps you avoid nasty surprises and cost overruns.

Specifically here, work with an experienced greenhouse systems design professional, because they can optimize your greenhouse irrigation system for maximum efficiencies while ensuring you have a detailed list that spells out all the parts you'll need for it to function and work as expected. With that, you'll avoid the waste that often comes with buying materials haphazardly.



IDENTIFY YOUR PLANT REQUIREMENTS

WHY IT'S IMPORTANT

Just like how a teenager eats more food than a toddler, the water demands of plants change as they mature. And just like people consume different amounts, each type of crop has its own level of thirst.

Understanding these differences helps you account for them when determining your total water demand, and that total becomes an important factor in sizing your watering system properly.

Each crop type also has specific nutrient needs and pH requirements to thrive, both of which change with each growth phase, so this is also a good time to consider how you plan to deliver nutrients to your crops.

Thinking about automated fertigation? You need to decide whether in-line/direct injection or batch

injection works better for your cultivation needs. Each method has its advantages and requires a different piping system to function properly.

What to do: Estimate the total water needs of your crops at different growth stages and see how this fits into your overall irrigation plan.

Don't forget to factor in container sizes, which also change as plants get larger. Small pots dry down more quickly and need watering more frequently than larger pots with more water-holding capacity.

These steps help you get more granular about your water needs, so you won't end up with a greenhouse irrigation system that is too small or too large.

Additionally, identify what nutrients your crops need and develop a fertilization plan. Let our engineers help you decide if in-line/direct injection fertigation or maintaining fertigated batch tanks is beneficial for your crops' growth.





EVALUATE YOUR GREENHOUSE ENVIRONMENT

WHY IT'S IMPORTANT

Because a plant's water needs tie closely with its rate of evapotranspiration (evaporation/water loss plus transpiration/water uptake), greenhouse temperature and humidity changes also affect your crop's water needs.

For instance, high temperatures and low humidity cause plants to transpire more heavily, which increases the water loss that triggers greater thirst.

Monitoring these factors helps you adjust your irrigation to prevent over- or under-watering.

What to do: Take a close look at how the way you manage your greenhouse environment changes your crop's water requirements and use this information to determine the correct size for your greenhouse watering system.





FACTOR IN CLIMATE AND WEATHER CONDITIONS

WHY IT'S IMPORTANT

The more sunlight that enters your greenhouse, the more heat you get, which causes higher evapotranspiration rates in your plants. Ergo — thirstier plants.

A greenhouse's daily sunlight quota depends on its location, the surrounding landscape, the seasons, and the weather.

For example, greenhouses nearer the equator, in what are sometimes called tropical zones, receive direct sunlight during the day in almost equal amounts to the nighttime hours. These latitudes experience very little seasonal changes that impact the amount of sunlight they receive.

Being aware of these circumstances helps you plan your irrigation schedules and comply with water regulations.

What to do: Identify the typical weather patterns and sunlight exposure where your greenhouse lives and determine how they impact your water use. Check for any water-use restrictions in your area due to droughts or other extreme conditions.





TIP 5 TEST YOUR WATER SOURCE

WHY IT'S IMPORTANT

Water quality and availability have a direct impact on the effectiveness of your greenhouse irrigation system and the health of your plants.

The higher the levels of sedimentation and organic matter or contaminants hanging around in your water, the greater the threat to your plants and the more complicated your filtration needs.

Depending on the water quality at your source, you may need an irrigation system with more advanced filtration and purification capabilities.

What to do: Test the quality of your water at your source to see if it poses a risk to the health of your crops. Share the information with your vendor and your systems designer to determine the level of filtration and purification needed to mitigate the risk.

While you're checking your water source, assess your water availability to see if you'll have enough water for your needs. Additionally, find out if your water source meets the water pressure and flow rate requirements of your greenhouse irrigation system.

TIP 6

DETERMINE YOUR LABOR NEEDS

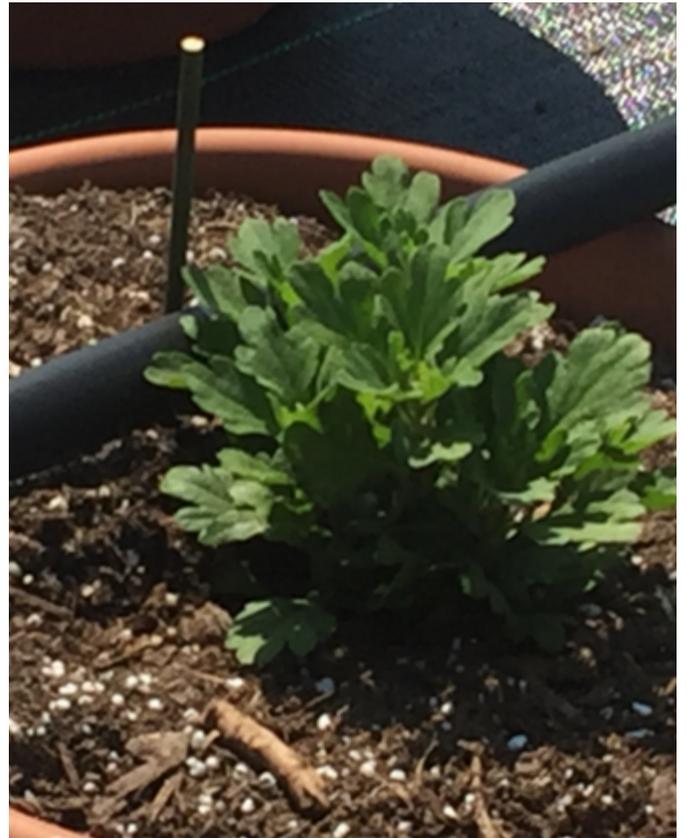
WHY IT'S IMPORTANT

If you find hiring enough hands a challenge, an automated greenhouse watering system can handle watering tasks reliably and efficiently without the need for manual labor.

This leaves your team free to work on other tasks instead of having to constantly monitor and water plants, and you save money on labor costs.

Conversely, you may have plenty of labor but grow a variety of plants that have very specific watering needs and irrigation schedules, such as in a conservatory or research institution. In these scenarios, an automated watering system may not make as much sense.

What to do: Evaluate your labor resources and consider investing in an automated greenhouse irrigation system if labor is limited. This increases efficiency and allows your team to tackle other jobs around the greenhouse.



TIP 7

EVALUATE YOUR GROWING MEDIA

WHY IT'S IMPORTANT

Different growing media types retain water differently, and not all of them pair well with every irrigation system.

An irrigation system that can adjust according to the water-holding characteristics of your growing media can prevent you from either drowning your plants with too much water or not watering enough.

What to do: Become familiar with the water-retention characteristics of your growing media, then select a watering system for your greenhouse that delivers the appropriate amount of water (by adjusting the frequency and volume of irrigation as needed).

TIP 8

SET A REALISTIC BUDGET

WHY IT'S IMPORTANT

A well-prepared budget forces you to put together a greenhouse irrigation system that fits your needs without abusing your budget.

When you consider your initial investment and recurring costs (e.g., maintenance, water bills, etc.), you'll get a good general idea of how soon you'll realize a return on your investment and what to expect to pay for that system over the years.

What to do: Research various irrigation systems (e.g., drip irrigation, boom irrigation, flood-floor, misting, fogging, etc.) and their associated costs for comparison. Include installation costs, maintenance, and energy costs in your budget, as well as a little extra money for contingencies.

Contact a professional greenhouse systems designer to get specific estimates and good recommendations for a greenhouse irrigation system that matches your cultivation needs.



TIP 9

DON'T FORGET ABOUT CONSERVATION

WHY IT'S IMPORTANT

From a business perspective, efficient water use reduces waste and ensures more certain long-term water availability. From an environmental perspective, it supports sustainable practices that conserve natural resources.

What to do: Consider watering systems with water-conserving features such as drip irrigation and sensor-based systems that maximize water-use efficiency. Use real-time weather data and predictive analytics to assist you with decisions about when and how much to water your plants.



WHY THE RIGHT GREENHOUSE IRRIGATION SYSTEM PAYS OFF

There's a big difference between settling for a 'good enough' greenhouse irrigation system and one that is 'just right.'

A system that provides exactly what you want and need results in a higher level of satisfaction and offers much more in terms of efficiency and the long-term benefits you experience. Plus, it spares you loads of frustration.

By considering the tips above, you'll be well on your way to selecting a greenhouse irrigation system that is just right for how you like to grow your plants, while also enjoying efficiency, sustainability, and healthy, quality crops.

Our team of skilled engineers and designers is here to collaborate with you to create a custom greenhouse watering system that suits your specific cultivation needs.

By combining our knowledge of greenhouse systems with your unique needs, we can develop a watering solution that maximizes efficiency and minimizes waste.

Don't hesitate to reach out to us and let us show you how we can enhance your greenhouse irrigation setup.

Visit [Prospiant.com](https://www.prospiant.com) today to learn more about our services and how we can help you achieve optimal results.



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- ✓ Integrate the perfect growing environment
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