



Greenhouse Consultation: The New Normal

When consulting with a greenhouse manufacturer, it's important to ask the right questions and consider the many variables that can affect your project.

BY CHRISTOPHER MACHNICH

Whether it's a startup hydroponics operation in the city or an existing commercial flower facility in rural America, the decision to construct a greenhouse is stressful and difficult. There's a seemingly endless list of variables that need to be considered. From regional climate requirements to business requirements, combined with rapidly improving technology that provides supreme environmental control, navigating all the greenhouse variables and options is a time-consuming process with many design aspects that are easy to overlook. When beginning the design process, growers always have to consider that one wrong decision or misstep could negatively affect their operation's profitability.

With all of the available options, expert consultation has become necessary for professional and commercial growers. Any industry-leading greenhouse company will have experts available throughout the design and construction process and they allow growers to focus on what they do best: grow.

When working with the right greenhouse company, growers can create a durable and dependable greenhouse that seamlessly integrates the ideal design and accessories.

"We take into account a number of factors when designing a greenhouse — local regulations, energy use, budget, crop requirements, labor efficiency, environment and the most efficient way to control the environment. We don't just sell

them a structure, we are providing a solution that maximizes their business plan," says Jon Kozlowski, who manages the team of greenhouse specialists at GrowSpan Greenhouse Structures.

When all of these factors are taken into account and implemented in a greenhouse's design, growers can reduce their monthly expenses and improve crop quality, leading to a more profitable growing operation.

DESIGN AND CONSTRUCTION

Greenhouse growing success starts with a sturdy greenhouse. Most operations utilize greenhouse structures to create a space where crops can thrive year-round. This explains why greenhouses are frequently used in regions where the weather is less than ideal. From excessive wind and rain to seasonal snowstorms, a greenhouse has to be built and designed to withstand these weather extremes.

On top of this, many towns and municipalities have their own set of building codes, which can be hard to navigate. From the very start, working with a greenhouse specialist can help growers determine how to design their new structure to meet their regional building codes and municipal requirements.

Designing a sturdy greenhouse that is also tailored to a specific operation is a unique

blend of foundation, frame and covering. The strength of a greenhouse begins at its base. A foundation that ensures structural support, while also meeting operation needs is imperative. Some operations need exposed Earth, while others utilize a traditional foundation with flooring. Both of these factors significantly alter the construction of a greenhouse's foundation. A structure's foundation needs to be able to accommodate an operation's growing practices, while also providing support to the frame. There are a number of options here, and again, working with an expert or specialist is the only way to make sure a greenhouse's foundation is designed and constructed correctly.

Like the foundation, frames come in many different options. Greenhouse experts seem to unanimously choose steel for the construction of a structure's frame, but the design and layout of a greenhouse's frame can change dramatically

from operation to operation. A steel frame provides the structural support that is needed to withstand weather extremes, while also ensuring the required strength for heavier coverings, like polycarbonate. A number of companies offer steel frames that have been galvanized. A galvanized steel frame can be an invaluable option for growers, because it allows the frame to withstand corrosive environments.

Greenhouse experts really separate themselves from traditional contractors and architects when it comes to selecting the greenhouse covering. Choosing the right covering is important to the crops that are grown within the structure, as different covers can alter the structure's internal atmosphere.

"We are designing the physical space, but just as important is the design of the environment," says Kozlowski.

Different greenhouse films and panels change the amount of light and heat that is able to

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With modern technology, such as this GrowSpan greenhouse featuring a HydroCycle NFT system, maintaining the perfect environment is easier than ever.



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access the structure. Selecting the wrong covering can quickly reduce the efficiency and profitability of a growing operation.

With all the different construction options, using an existing design that is easily manufactured and reproduced can often come at the expense of the grower and their operation. Taking the time to work with a greenhouse expert allows growers to get a structure that is tailored to their exact needs. This can quickly and dramatically improve day-to-day operations and business.

ENVIRONMENTAL CONTROL

Just about every grower that is considering constructing a greenhouse is after environmental control. No matter what region a structure is

located in, when the right equipment is used, just about any crop can be grown. Again, there are so many factors to consider — both internal and external — when trying to obtain an ideal environment.

Environmental control is a delicate balance of lighting, air exchange, heating, irrigation, humidity, cooling and more. All of this can be relatively easy to control when the right equipment and controllers are integrated into the structure.

Kozlowski says, “A greenhouse specialist can provide and design the right equipment to match the crop in order to maximize production.”

An expert becomes important when growers are trying to corral all their equipment into a process that is easy to manage and maintain on a daily basis. Greenhouse experts are up to date on the latest technology and are able to make practical suggestions that can improve an operation’s functionality and overall crop quality.

With contemporary technology, maintaining the perfect environment is easier than ever. There are a number of environmental controllers and systems that can be programmed to automatically keep environmental factors within their set parameters. Even the most complex and extensive greenhouse operations can be programmed into an environmental control system. This enables growers to finely tune their environmental settings, so they are never wasting energy, while also limiting the amount of labor that is required to maintain a thriving commercial growing operation.

The research and footwork required to construct a greenhouse can quickly turn into a full-time job, and without turning it into a full-time job, it is nearly impossible to know the ins and outs of greenhouse construction and environmental control. Because of all the variables that accompany greenhouse construction, more and more companies are staffing greenhouse experts and specialists. These experts streamline the construction process and allow growers to get an ideal greenhouse that functions in a manner that is most beneficial to their operation.

In today’s world that is marked by competitive business practices and constantly improving technology, greenhouse consultation is necessary when constructing a professional or commercial greenhouse. [gpn](http://gpn.com)

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