

From Grower to Builder: Why It Matters to Start by Thinking About the End

As the head grower of BrightFarms' Capital Greenhouse farm in Culpeper, Virginia, I'm intimately involved with my crops from the moment they're planted until the day they're harvested and packaged for grocery store shelves.

Every day, I monitor growth and evaluate the temperature, sunlight and nutrition of the plants in the greenhouse. As a grower, you'd expect that to be my job. What you might not associate with a produce grower is the role of builder. But, I was fortunate to be involved in the planning and construction of the hydroponic greenhouse farm where I work every day. Even before our operation was up and running, I had a hand in the build process of the greenhouse itself.

It was critical that our growing teams be intimately involved in the design of the greenhouse so that it fit the needs and volume of the crops we grow and the amount of produce we need to harvest. So how do growers and builders work together to construct a custom greenhouse? Where do you even start?



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PLANNING

Before we could think about what was needed inside the greenhouse, we had to think about location. Environmental factors are incredibly important when selecting the proper place to build a greenhouse. We had to consider questions like: What's the average year-round temperature? Are there prevailing winds? What's the average amount of rain water? What is the annual snow load? What do the water samples look like?

These types of considerations are important to identify an optimal place to build, and also in decisions around materials. For example, if there are strong winds or heavy snow load, thicker steel may be the smart decision. If it gets extremely hot in the spring and summer months, consider installing a passive or active cooling system may be advantageous. You also need to think about the future. Not only should the greenhouse space be able to support your current growing needs, but is it scalable for future growth? All of these important factors need to be taken into consideration during the planning process.

COLLABORATION

When considering your general contractor or construction management partner, ask the tough questions during the vetting process to ensure they take a collaborative approach. We as growers know our craft, but may not be well-versed in the engineering of a greenhouse. The hope is that your partner can proactively ask the right questions to make sure the plans are in-line with the goals of the operations team. Gaining alignment across teams from the beginning, you're much more likely to avoid misaligned expectations and have a successful end result.



INSIDE THE GREENHOUSE

I'm a grower, so my priority is my produce. We grow several varieties of baby salad greens, basil and tomatoes. When I was asked to support the building process of the greenhouse, my first thought was: What do I need on day one of planting? First, you need to cover the basics. How will you plant your crops, water them, provide them with nutrients and sunlight? Walk yourself backwards from there. You need systems in place to support each.

Because sustainability is one of our top priorities, we've designed our greenhouses to be extremely efficient using technology like the recirculation system in our pond. My advice: Do some research and consult trusted partners to figure out what systems you need to best support your produce.

THE FIRST HARVEST

Of course the end goal is designing a greenhouse that produces high-quality, delicious produce. Sometimes there's trial and error in order to make sure everything goes smoothly. We were fortunate enough to have a fantastic first harvest. It went off without a hitch and our baby greens were bountiful, so much so that we donated our first harvest to the Capital Area Food Bank. The first harvest at Culpeper is without a doubt one of the highlights of my professional career. Knowing that I was involved in the planning process of the greenhouse from start to finish, and then to have our hard work pay off with the first harvest was an awesome feeling.

What I love most about greenhouse farming is that every day is different. I'm constantly evaluating the health of our produce and making adjustments. The tools and systems that I helped put in place at our greenhouse are an integral part of my day-to-day work. Without the extensive planning and consultation from trusted partners, our first harvest would not have been as successful as it was. I advise all of my fellow growers to learn from our experiences in order to provide consumers with fresh, delicious produce. [gpn](http://gpn.com)