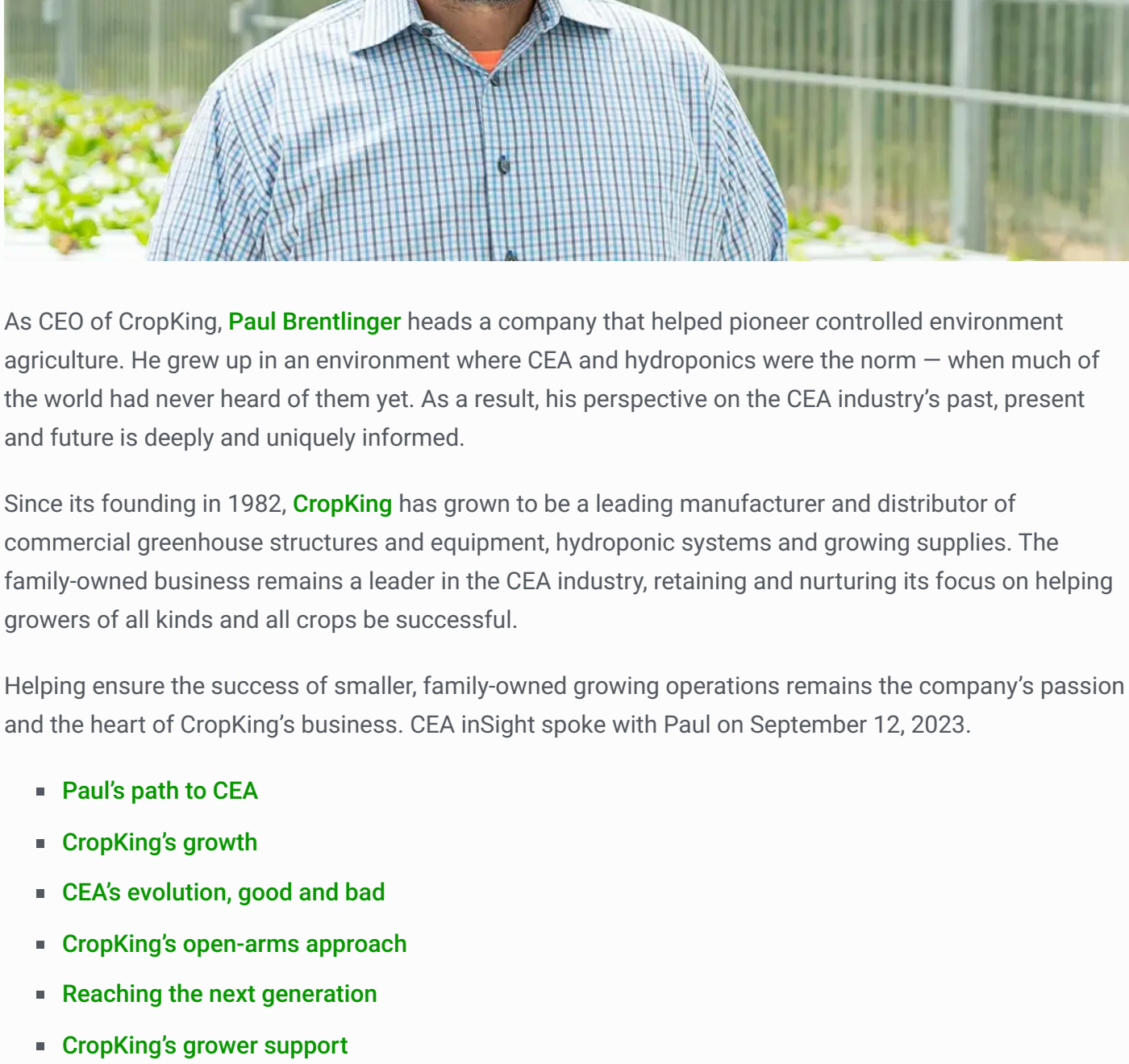


BUSINESS • FEATURED Q&As

Q&A with Paul Brentlinger, CEO of CropKing

Paul Brentlinger, owner and CEO of CropKing, shares his CEA journey and perspectives on the industry's past, present and future.

September 30, 2023



As CEO of CropKing, **Paul Brentlinger** heads a company that helped pioneer controlled environment agriculture. He grew up in an environment where CEA and hydroponics were the norm – when much of the world had never heard of them yet. As a result, his perspective on the CEA industry's past, present and future is deeply and uniquely informed.

Since its founding in 1982, **CropKing** has grown to be a leading manufacturer and distributor of commercial greenhouse structures and equipment, hydroponic systems and growing supplies. The family-owned business remains a leader in the CEA industry, retaining and nurturing its focus on helping growers of all kinds and all crops be successful.

Helping ensure the success of smaller, family-owned growing operations remains the company's passion and the heart of CropKing's business. CEA inSight spoke with Paul on September 12, 2023.

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Paul's path to CEA

Q: Many people consider CEA a brand-new industry. But your company and your family are a testament to the fact it's not. You're the second-generation leader of a CEA business founded by your hydroponic-grower parents more than 40 years old. At what point in your life did you realize that CEA was for you?

A: I was maybe almost 40 years old when my parents started CropKing. I literally don't remember a time when I didn't understand what controlled environment agriculture was, even though it didn't have that monkier back in the day. I grew up inundated with it. It was a constant in my life. It was the dinner table talk. It was our world. So I grew up swearing I would not be a part of it and I would go and pursue my own way in life.

But I think, like a lot of ag kids, you don't necessarily want to do what your parents do. I loved the hospitality industry, the service industry. So I went off and managed hotels after I graduated from college for a while. But again, like a lot of ag kids, we realize once we get away from it how beautiful it actually is as far as a lifestyle and the goodness that it possesses as far as a pursuit. It was shortly after I had gotten married and was managing hotels down in St. Louis that I kind of went, you know what, I don't know if this is what I want to pursue. So I did come back to the company.

We had a produce company back then that we used as a marketing tool to help our growers that purchased CropKing systems figure out their marketing, and it had run its course by this time. This was in 2003 maybe, so I came back to close that produce business down and then moved into sales and started focusing back into the ag space – obviously in the controlled environment ag space. But I don't think that they're significantly different as far as the joy and fulfillment that they give people who pursue them.

So that's really when it was, and I've loved it ever since. It is something that is a passion that you want to pursue, or at least for me it is.

CropKing's growth

Q: You became president of the company at a fairly young age nearly 20 years ago. You've been instrumental in growing the company to be a leader in the space, helping growers worldwide succeed. How strategic has CropKing's growth been? As you look back, what were some of the things that now stand out as milestones for the company?

A: My dad passed away in 2005, and it was at that point that I stepped in as president of the company. I was 26 years old. So, at that point, it felt really overwhelming. Like I was this little kid getting tossed into the deep end of the pool.

I definitely didn't not have a strategy. When my dad passed away, it was very quick. He died of cancer, and it was about a nine-month process from the time that I was identified to the time that he was gone. I was not anticipating running the company nine months earlier, so I didn't have a plan and I very much felt like I had been thrown in the deep end. So, I very intentionally tried to figure out how I was going to come up with a plan.

The first thing I did was I went over to Europe, just to kind of see what this space was doing where it certainly was much, much larger than it was in the U.S. at that time. It still is obviously much, much larger in Europe than it is in the United States. So, I did a bit of a whirlwind tour of visiting a lot of very large CEA facilities, both lettuce and tomato. And it really struck me that we were going to see the same thing that we were seeing at that point in tomatoes happen to lettuce next – all the automation that they were incorporating, just to reduce labor.

At that point, if you looked at the labor difference between what Europeans were paying for labor and what the United States was paying for labor, it was a big gap. Labor cost a lot more in Europe than it did in the U.S. at that point. So that definitely shaped how I wanted to pursue the future of CropKing. But I don't think that when I came back I did a lot that was significantly different.

My dad and mom were both very ahead of their time in how they saw this industry. And, in the United States, it's still – people think it's a new industry. It's obviously not a new industry – but it's still a relatively immature industry. And with that comes the need for a lot of guidance and support and handholding as people get into this space.

That was always something that my parents knew from their experience as being growers in the '70s, that without that support, this is not a simple process. It's not rocket science. But it's not a set-it-and-forget-it. It's not something that's easy to accomplish without the proper knowledge. So that has really always been our focus.

When you went to Europe, everything was so much more concentrated that they had that support just with all of the growers that existed. So, the need for a company to provide that as part of their sales process and/or post-sale process wasn't as evident in Europe. But it was definitely something that we had seen success with for CropKing, and so it's really something that we continue to pursue.

I just feel like it's always been about the truth of agriculture, which is consistency and efficiency. And if you don't have those two things, it just doesn't work.

Certainly, the trip to see a lot of the different ways that people were utilizing this on a much bigger scale than the U.S. enlightened me as far as where I anticipated it would go in the U.S., and we're seeing that now. We're seeing very large facilities being built out.

CEA's evolution, good and bad

Q: Literally growing up in CEA, surrounded by hydroponics, you've had a very unique vantage point to watch the industry evolve. What are some of the most significant changes – good and not so good – you've seen in the CEA industry as a whole?

I think the adoption of some of the technology as far as automating plants' movement has been very beneficial to the industry and really what's allowed us to kind of make this next step towards competitive CEA production with field production. I think if we weren't able to get some of that labor out of the greenhouse, we would have a much harder time ever being competitive with these large field producers. I think that that's definitely done a lot.

"I think [lettuce genetics] will be the next milestone that we'll have in this space. When we start to get the genetic work done with lettuce that we've seen with tomatoes, we won't just be competitive with field-grown. We will actually be more efficient than field-grown."

PAUL BRENTLINGER, CROPKING CEO

I think that the genetics, when you look at the tomato space, I think a lot of the leaps in what we've seen we can pin on genetics and being able to really maximize the plant's potential through breeding. If you go back to the late '80s, I think it's a pretty established fact that 90-plus percent of the tomatoes consumed in the United States came from the field. Today, it is completely reversed and over 90% of the tomatoes consumed in the United States come out of CEA.

When you look at lettuce, which I think is where we're focused most now in the CEA world, as far as getting to that tipping point, I think it comes down to automation, because there's a lot of labor that is being automated and gotten out of the greenhouse to allow us to get there.

I don't think we've seen the same movement in genetics on the lettuce side of things. But I think that will be the next milestone that we'll have in this space. When we start to get the genetic work done with lettuce that we've seen with tomatoes, we won't just be competitive with field-grown, we will actually be more efficient than field-grown.

Some of the bad things that I've seen in this space are the decade that we just came through of cheap, cheap money. I think that we've seen a lot of really negative stuff that will probably take a number of years to come back from, just with some of the colossal failures that we've seen over the last five years.

This is not a software. This is not a phone, an app. These aren't unicorn investments. We're talking about agriculture, and agriculture is slow money. And that's not what investment bankers and private equity really want. So I think there was a lot of hype and really, a lot of flat-out lies, that were told in order to accomplish some of the projects that have been accomplished.

Again, we're seeing some very colossal failures that are not great for the industry. We haven't seen it to this level ever. But it's very similar, I think, to the late '80s, where you did have a lot of investment into the greenhouse space. It was kind of purported as the savior of agriculture and kind of the same way that it has been in the last decade. And you saw a lot of colossal failures back then. That took a long time, much longer than this will take, to come out of it and make people feel comfortable enough with investing in this space.

I think that's one of the negatives that we've seen – people kind of pinning their hopes on this to be the revolution of agriculture. This is a tool in agriculture, and it's a very valuable and useful tool. But we have to be careful with how we pursue any of it.

CropKing's open-arms approach

Q: One thing that distinguishes CropKing is your willingness to work with anyone interested in efficient, sustainable production. That ranges from students and hobbyists to large-scale commercial enterprises, from produce to cannabis and hemp. What's the motivation behind your open-arms approach?

A: I love this question. It definitely is attributed to my father. My dad was very strong in his faith, and I think that it was his desire to be Christlike in everything that he did, including his career. I think that's what drove him to just have that "We're here to help" mentality.

It's not just about us and what we can accomplish and how big we can grow and how fast we can do it. It's about how do we be good stewards of what we have, and how do we help people accomplish their goals.

It's absolutely something that my dad instilled in us as a family from very young age, and I've definitely continued to maintain that as a goal of CropKing. I think it's hugely important to be focusing on the next generation, investing in them and pouring into them.

Reaching the next generation

Q: You're involved in a lot of school-based classroom initiatives that expose kids – the next generation of growers – to the realities and possibilities and joys of CEA and growing plants. Your passion for those programs is very apparent. How did that involvement begin and why is it so important to you personally?

CropKing has been in this space for a very long time. We don't look at it as just an industry where we can be a player. We want to make it ours. We feel that we have been in it for so long that we've helped to develop it. We care about it. We want it to be successful.

As you're seeing a lot of this growth, one of the things that is going to continue to be an issue is the fact that there just aren't enough people that are tasting it from a young age. So I think there was a huge aspect of seeing a need in the industry – or recognizing that there was going to be a need in the industry before it happened – and going, "You know what, this should be a focus of ours."

Now I can't say that there isn't a selfish motivation there as well, right? These children are going to be the people making decisions in controlled environment agriculture in the next one to two decades. They will be the decision-makers of the largest farms; they will be managing the newest CEA facilities in the next couple of decades. So there's definitely an element of we want them to know who we are now and to recognize that we have been there for a long time, so that when they're making those decisions, they remember that we helped them get to where they are.

It is – I don't want to say a slow-moving industry – but it's an industry that doesn't just happen overnight. Agriculture, again, is about consistency, reliability, repeatability. And I think that if you can get in front of these kids at a young age and let them watch you be consistent and reliable and repeatable, then it will make them feel more comfortable when they start making those decisions to call on you for advice and help.

CropKing's grower support

Q: CropKing's focus on training and education extends to your grower customers. You go beyond products and technology to support growers with some pretty robust grower services. What are some of the highlights of that program and why is grower education and training a crucial component of the sale at CropKing?

A: Our grower training workshop is kind of our flagship resource that we've done for the last 30 plus years. There's really two major approaches, in my opinion, to controlled environment agriculture: **There is the small grower**, which is what CropKing has historically focused on for the majority of our existence, and I would suggest that's typically 20,000 to 30,000 square feet and below. The majority of our growers underneath that level are probably in the 5,000- to 10,000-square-foot range.

We support hundreds of those growers across the country. But those growers are also the business owners. And they're also their marketing departments, and they're also their accounting departments. So when you're sometimes enamored with the concept of controlled environment agriculture, you don't understand the totality of the roles that you're going to have to accomplish as you get into this.

"It's a big deal, especially when people are going to consider mortgaging their homes or their property or using their 401(k)s that they have saved for their kids' colleges. Failure in those scenarios isn't just a stock that goes away and an investment bank that drops 5% for the year. It's literally people's lives, and we take that very, very seriously."

PAUL BRENTLINGER, CROPKING CEO

So our **grower training workshop** is literally designed for people who are considering this as a path, and it gives them a 30,000-foot view of what it will be like to operate, own and market for a controlled environment agriculture small business.

They don't have necessarily a big investment bank that has layers of management that can kind of keep them driven to set goals and be task-oriented and set up systems. It's literally a lot of times a one-family show where it's mom and dad and the kids are helping out to accomplish these goals.

So from a CropKing perspective, that kind of goes back to ownership of the industry. And when I say that, I don't mean market share. I just mean that this is our passion, and we want to own it like it's our child and not just some way to an end.

When we look at this, we want people to have their eyes wide open as they jump into something where it's not cheap – you don't spend \$20,000 and get into commercial agriculture. You're spending six figures, at minimum typically, to set something like this up. So it's a big deal, especially when people are going to consider mortgaging their homes or their property or using their 401(k)s that they have saved for their kids' colleges. Failure in those scenarios isn't just a stock that goes away and an investment bank that drops 5% for the year. It's literally people's lives, and we take that very, very seriously.

So we wanted to disseminate as much information as we can, so that everybody has the ability to make a very informed decision before they jump into something like that. That's always been a main focus for us, to just get this information out to people so that they understand what they're getting into and can make the decision then: Do we still want to continue? If we do, this is a good partner for us to continue with? Do they seem to be the people who can help us succeed?

It's definitely a marketing tool to be able to have these people in front of you and spend two days explaining to them how they can be successful, showing them examples, bringing in successful growers so they can answer questions. If somebody is considering getting into it, it is a phenomenal resource. I don't know if that sounds a little too much like I'm tooting my own horn, but it is definitely worth the \$395 a person. It's well, well worth the investment before you go and invest six figures at a minimum to set one of these up. So that's been our flagship.

We have done advanced grower training workshops many times over the years. Then recently, we started offering our **intensives**, which is maybe the next step. So you've gone through the workshop and you go okay, yep, I want to do this. Maybe it's even after you've got your greenhouse – not in production, but in manufacturing production. So you want to go a little bit deeper into the ins and outs of day-to-day operation. Fertilizer management, true load management, environmental management. All of the things that are going to make a difference in your success or failure.

We offer them by the day, and a lot of people will come for three or four or five days. You basically spend half the time literally just working in a greenhouse, which it always seemed a little weird that we're going to charge people to come and have them labor for us. But again, when you're talking about putting your house on the line to start a business, you want to have as much of that confidence in what you're doing as you possibly can. So that's been really good.

Then, like I said, there's two distinct entry points into this space: There's the small growers, and **then there's the large growers**. Those large projects are very time-consuming to help people walk through the process.

Again, we're not doing it from the same perspective of a pitch deck trying to go out and raise a bunch of money. We're doing it from the perspective of we don't want people to spend their money in a way that's going to make the industry look bad down the road. So, we want to cross every "i" and dot every "t" of whether or not this makes sense in the location.

With those, we have started offering **managed service agreements**. You know, we don't know if that's exactly the right word, because we're not going in and managing everything about the facility. But it's a much higher level of support, where we have CropKing employees on the ground for significant amounts of time in the people's greenhouses, helping them train their staff, helping them make decisions on varieties, helping them troubleshoot problems when they come up, because they inevitably will. And if you don't have that support system in place, it literally can mean the difference between success and failure.

So, it's a deeper level of our Crop King technical support. For our **CropKing technical support** that we sell with every one of our complete packages, you get access to our team of horticulturists and growers and construction experts on staff.

Now, like I said, we support hundreds of these growers across the country, so we don't have the ability or bandwidth to touch every one of them every day or even every week. So a lot of that grower support is on the grower to pick up the phone and call us and let us know what they're experiencing. You can do so much through pictures and phone calls and FaceTime and Zoom and all of the things, the technologies we have that allow us to be in people's greenhouses even if we're sitting in Ohio.

Part of it is that when you're a small grower, you can't necessarily afford that next level of support. But when you're building a \$15 million project, it's very much what the investment banks or the large private investors who are behind that have to have.

It's a bit of security if your grower walks out because somebody else offered him \$50,000 more, or you get Pythium and you're not an experienced grower, and you don't know how to handle it. Having a support team that does and can help you manage through the solutions is very, very helpful and valuable – and, again, can be the difference between success and failure. And that's always CropKing's focus: How do we prevent the failures? How do we make more successes?

Challenges and opportunities for CropKing and CEA

Q: Looking forward, what do you consider to be the biggest challenges and opportunities for CropKing and the CEA industry? Where do you hope to see CEA five or 10 years from now? What are you most excited about right now?

A: For CropKing, I think one of the bigger challenges that I see as this industry continues to develop is our ability to stay the course with what matters most to us, which is relationship development, concern for people first, focusing on the basics of what this is.

It's not a challenge like, "Oh, how are we going to do it?" But just as the industry continues to grow, and more and more money pours into it, it becomes a little harder to not get lost in the hype and the marketing and the hustle and bustle of shiny new things that come along with a developing marketplace, which is where we're at on the maturation curve. We're heading up that steep incline right now.

So I think that's a challenge as we look at the future and how to continue to maintain who we are at the core as this industry changes very fast.

"When you're starting out in something like this, I think it's a lot better to start with a manageable size, and then continue to have consistent growth ... I think as we look out there and see some of the really good actors in the space, we've seen the model for success."

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Some of the challenges for the industry? I think getting over some of these colossal failures that we've seen literally in the last two years. The number of bankruptcies and reorganizations have been staggering. It's great these guys all have really good PR firms and they can spin it and talk about pivoting and et cetera. But there has been a ridiculous amount of money that has been mismanaged in this space over the last five years. When you see that, it makes people kind of question whether it's worth continuing to invest in.

Now, I think there's enough opportunity also in this space that investment will continue, but we're going to see a period of slowdown in my opinion. We're going to get to a period of some consolidation with a lot of these big growers, and the people who have focused on the basics throughout the whole thing I think are going to be the winners.

When you're starting out in something like this, I think it's a lot better to start with a manageable size, and then continue to have consistent growth. I'm not yet convinced that popping out 20-acre lettuce facilities is going to be the right move, at least for another five to 10 years. Those are struggles, and everybody is going to experience hiccups and issues as you turn on a brand-new facility. When that facility is 20 acres, those hiccups get really expensive.

I think as we look out there and see some of the really good actors in the space, we've seen the model for success.

Gotham Greens started and has grown over the last decade to be a powerhouse in the industry. But they've done it through relatively small moves, and each time taking the time to figure out what the best approach is, **what that market looks like, and how do they serve it the best**. It's not ever been about how do we go and attract the most money or get the most press or become an IPO or a SPAC or any of those things. It's how do we focus on efficient agriculture where it's a 5, went to 10, and now they're **continuing to expand**.

So when I see very large facilities just dropped into the middle of nowhere and expected to be successful, I don't necessarily understand where they're coming to those conclusions from. So, I think that is an opportunity and challenge as we look at the overall industry.

For CropKing, I think that as we see some of these colossal failures, it will push back into that smaller grower world as opportunity. I think in the last five or 10 years, you've seen [the large facilities] drive a little more fear into small growers. What is one of the easiest ways for a small grower to historically differentiate themselves? Well, it's been their local aspect. It's that they can provide a local product in the wintertime or off-season, whereas otherwise you wouldn't be able to have a local product.

Well, when **Kalera** or **AppliHarvest** or any of these guys pop out in your neighborhood, they're also then very local. So you've seen some sort of ability to market on that you grow away.

The opportunity is not just driven by these failures. It's also driven by the concept of food as medicine, which is a big concept these days. I just recently learned that there's actually prescription food as this point. I don't know if this is in every state, but there are states where prescription food is a reality. You can get your doctor to write a prescription, and you then have the ability to utilize your health savings account.

Some of that is driving this small grower movement again. There's a lot of opportunity in local farmers markets and CSAs, and even this prescription food. It's still very, very young – I don't have a lot of information about it, and I'm certainly not claiming to know how it works – but I've started hearing about it. This food-is-medicine thing is really gaining traction.

The amount of money that's spent in health care, it's literally the insurance companies that are pushing this, because if they can create healthier people, their costs come down. It's been pretty cool to see the transition happening from pharmaceuticals and pills as the answer to really a focus on saying, hey, what you eat is what you are and so we maybe need to focus a little bit more on what it is that we're putting into our bodies.

So I think, for CropKing, an opportunity is that the bread and butter of who we've always been is going to see a resurgence in the next couple of years. We're starting to see it now. COVID certainly helped bring a lot of attention to the brokenness of our food system and the inefficiencies of our supply chains, and why it matters to have local production. Those have been some opportunities that are going to be really exciting as we continue into the future.

Choosing partners wisely

Q: What else would you like to say to this audience of people in or interested in CEA?

A: There's one thing that I wish that everybody who is pursuing controlled environment agriculture, whether it is on a small scale or whether it's on the very large institutional scale, understood: I just wish that more people understood that there's nothing special here. This is an opportunity, but you can't get away from the basics with this opportunity.

Your partners are imperative. Who you choose to rely on, lean on, and get your advice and supplies and products from is paramount. Calcium is not just calcium, right? You can't buy field-grade calcium and mix it up into your greenhouse and expect to have success. There are just some basic things that, as a kid who grew up in it, are just undeniable and logical. But if you didn't grow up in it, why wouldn't calcium just be calcium? It just doesn't make sense.

So your support team is huge. Whether you're doing 5,000 square feet, 5 acres or 50 acres, that rings true no matter what size. So if there's one thing that I can get out there, it's that that's so important.

Choose your partners wisely. It's what you tell your kids – who you hang out with makes a big difference on where you are as life. I think that's the same in business. That would be one of the things I would want everybody to know if they were reading this. And if you're interested in pursuing CEA, give us a call. We'd love to help. That's literally our focus, helping growers succeed.

This interview by Jolene Hansen was edited for length and clarity. Images courtesy of CropKing.

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October 24, 2023 October 20, 2023 October 17, 2023 October 12, 2023