GROWERTALKS

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Integrating Technology for a More Prosperous Tomorrow

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Whether you're successfully growing tomatoes or petunias, the science of horticulture extends much further than planting a seed and waiting for it to grow. Horticulturists need to be acutely aware of their environment and how even the slightest change will impact the plant's prosperity.

When owner of Holy City Farms, Shawn Ransford, delved into the industry, he immediately saw the volume of data that not only needed to be tracked, but evaluated. Manually tracking was both time-consuming and left a massive margin for error. Instead of becoming frustrated with this gap in the industry, Shawn used his education in software engineering to develop tools that could automatically track the data.

A backyard gardener for years, Shawn originally began growing hydroponics as a hobby. He was fascinated by this still fairly new form of growing—both for its potential for commercial operations and how it seamlessly integrated technology.

"It was the technology that initially drew me towards hydroponics," said Shawn. "I like to be able to manipulate variables and collect data, and in hydroponics, you can do that."

Initially, he grew lettuce—a crop that's well known for its high input. However, Shawn really loved tomatoes, so he decided to try growing them with the hydroponic system.

"Tomatoes are a much more intensive crop to grow, but up until the last year, we grew them year-round," said Shawn.

Holy City Farms is located on Wadmalaw Island, South Carolina. In the last two years, the summers have had record-breaking temperatures, which have had a negative impact on the production of the tomatoes. "When a tomato plant is consistently above 90 degrees, it stops producing," said Shawn.

Despite the challenges with growing tomatoes, the first year was a prosperous one. So much so that Shawn began to realize that perhaps his tomatoes could be more than just a hobby.

"We had more than enough tomatoes to feed my friends and family and so a friend of mine introduced me to a local restaurant as a potential buyer," said Shawn. This restaurant became Holy City Farms' first restaurant customer, consistently requesting fresh tomatoes each week. Shawn saw that growing tomatoes could be more than a hobby; it could become a viable business.

"I ran the numbers with my family and it made sense," said Shawn. "So we bought land in August 2013 and it has been about four years since I started providing food for local restaurants and farmers markets."

Holy City Farms is operated by Shawn and his wife Elizabeth. Most of their crops are grown in a greenhouse so that the Ranford family can maintain control of the environment and proactively respond to potential challenges.

Pictured: In addition to growing tomatoes, Shawn Ransford—owner of Holy City Farms— began to develop technical products for growers, creating a new company that builds greenhouse monitoring systems.

Heirloom tomatoes remain the primary crop for Holy City Farms, however, this greenhouse is continually pushing the envelope, with a dedicated trial area to experiment with new crops. Currently, the trial area contains squash, zucchini, okra and hops—all of which are growing through a deep-water culture system produced by Current Culture.

"The squash is growing very well," said Shawn. "I'm blown away by the effectiveness of the technology."   Most recently, Holy City Farms started an outdoor field where they will grow tomatoes in the traditional soil method.

"As a farmer, you have to push in every way that you can," says Shawn. "We are continually pushing to find new things to do, but at the end of the day, whatever you produce has to sell."

Although Shawn adapted well to his career change, the desk job life didn't fully disappear. When immersed in growing, Shawn found himself continually turning towards his engineering skillset to resolve issues in his facility. He quickly found himself not only looking for new ways to automate production, but continually analyzing data to increase both production and efficiency.

As he became more aware of the industry, Shawn identified a need for technology. With hydroponics, water quality can make the difference between produce that flourishes or flounders. His experience growing opened his eyes to several gaps in the field—gaps that could be filled with technology. So, in addition to growing tomatoes, Shawn began to develop technical products for growers. He wanted to provide growers with the tools that would not only make them a better grower, but allow them to sleep at night.

He started to develop technological products about a year ago, initially testing the technology in his farm and with a few other companies who provided products for growers.

"I have found a way to use my engineering background with my new-found agriculture experience. It has really helped to round out my career," said Shawn.

This past year, Shawn started the company Know Your Grow, which involves building monitoring systems for other's growing operations.

"This software provides growers with insights on their growing environment, providing them the tools to become a better grower," said Shawn.

Industrious and passionate, Shawn is driven to continually find innovative ways to expand technology to help other growers. Elizabeth also is an active partner, ensuring that the business runs smoothly year-round.

"We love what we do, and eventually, I would love to operate more sites," said Shawn.

When asked about what he would advise growers wanting to get into the industry, Shawn stated that there needs to be a combination of enthusiasm, passion and ability.

"At the end of the day, you are a farmer, which in itself is an extremely hard job. And if you choose hydroponics, sometimes it can be even harder because you are farming in a new way." **GT**

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