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CONTROLLED ENVIRONMENT AGRICULTURE

No Small Feat

Paul Sellew of Little Leaf Farms on being competitive with the biggest names in the lettuce biz.

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A cannabis nightmare: Bud rot

Paul Sellew holds a container of Baby Spring Mix, which was on the shelf of a local retailer the next day.

After the lettuce is harvested and mixed, it goes into clamshells and is ready to receive a label on the packing line.

Perfecting the Art of Lettuce

Little Leaf Farms is continually working at becoming more efficient and effective at growing baby leaf lettuce in a bid to be competitive with the biggest names in the game.

Story & photos by **JENNIFER POLANZ**

It was a brisk Monday morning in December when I ventured into the cozy office adjoining the greenhouse at Little Leaf Farms in Devens, Massachusetts. Space heaters were doing their best to cut the chill in the room, which featured blueprints covering most of the wall space surrounding four desks. Those blueprints showed multiple phases to the operation—including the newest Phase 3 slated for 2019 that will double the grower's size.

Don't be put off by the name, as the "Little" is clearly denoting the size of the lettuce leaf, not the size of the operation. At 2.5 acres for each of the first two phases, and 5 acres for Phase 3, it's quickly becoming one of the larger indoor hydroponic lettuce producers in the country. But size isn't the only thing Little Leaf has going for it. We'll get to all the details in a bit, but first, you might recognize where co-founder and CEO Paul Sellew got his start.

FROM THE BEGINNING

Paul grew up on the ornamentals side of the growing business, with his family starting Pride's Corner Farms in the 1970s. It's no surprise, then, that as an adult he started some of his own green industry businesses, including one called Earthgro. It was a commercial composting business "when nobody knew what that was," Paul explains. That grew to a large-scale, multi-plant operation from Maine to North Carolina, producing and selling a full line of lawn care products for the home gardening and professional grower market.

Scotts Miracle-Gro bought Earthgro in 1998, which gave Paul the time and seed money to help start a new passion project with Tim Cunniff: Backyard Farms. Located in Maine, it's a 42-acre greenhouse tomato growing operation that was pretty revolutionary at the time. It was scaled large enough to meet local demand for fresh produce and kept the tomatoes on the vine longer for a better taste.

Paul had left the company by 2009 after getting it started up (it was later bought by Mastronardi Produce in 2017) and went on to create yet another successful company—Harvest Power—which essentially turns organic waste products into renewable energy and compost-based soil products. That company has built out all over the U.S. and Canada, but after six years, Paul was ready for a change. That's when he and Tim, who also left Backyard Farms, started Little Leaf Farms.

"I was tired of traveling," he says. "I live outside of Boston and Harvest Power was all throughout North America. I wanted to stay closer to home and was curious about the leafy greens space since aspiring entrepreneurs were asking me about it.

"The way I was thinking, no one was pursuing the strategy I thought was right."

THE FOUR POINTS

What was the strategy Paul thought was the key to success? He lays it out for me—there are four points and not necessarily in any order:

1. A technology-controlled climate year-round regardless of outside weather conditions
2. The right growing system
3. The right varieties
4. The right management team

"If you've got those four things right, you'll win," he says simply.

Let's start with the location and climate. Devens, Massachusetts, is an ideal location for a couple of key reasons. One, it's not a town or city; it's an enterprise zone. It used to be Fort Devens and was owned by the Pentagon up until 1996 when the Commonwealth of Massachusetts bought it and turned it into an enterprise zone to entice industrial and commercial businesses. The spot where the greenhouse sits used to be called Vietnam Village, Paul says, which was a training site during the Vietnam War. The spot is also near a small-scale solar utility company, which allows Little Leaf Farms to pull 30% of its energy from renewable resources. Sustainability, both environmental and economical, is one tenet of the company.

As for point No. 2—selecting the right growing system? That came down to who knew baby leaf lettuce the best, which led Paul to Green Automation. The folks at Green Automation are actually the ones who told me about Little Leaf Farms at Cultivate'18 this year and highlighted Paul's fully automated baby leaf system in the booth. Green Automation started in Finland, but quickly began expanding to other European countries and then to the United States. It seemed like the perfect fit and it was the right start for Little Leaf.

IT'S ABOUT THE PEOPLE

We'll get to the automation and varieties in a minute, but if there was one of those four points that might inch higher than the others, it's the management part, Paul says. There are only 45 people who work at the growing operation and some of those people are in key management positions, including Head Grower Pieter Slaman, who came from one of the largest organic greenhouses in Europe, and Tim Cunniff, previously mentioned co-founder and Executive Vice President of Sales and Marketing. Tim, whom I talked with during that Monday morning visit, is a self-proclaimed produce guy who has extensive experience in the produce field, working for both Del Monte and Dole in previous jobs. He truly understands the nature of the business and what's required to be a real player in the game.

It's clear, too, that the entire team is a pretty tight-knit group, with easy banter in the breakroom and offices, and friendly "hellos" throughout the chilly packing area. (The greenhouse was a ghost town—not a soul in sight. There's no need for anyone to be in there). In fact, because it's so heavily automated, the most important people are often the ones doing routine maintenance on the mechanics to ensure everything remains as efficient as possible.

"People get caught up in the technology," Paul notes. "But at the end of the day it's the people. You have to go beyond the technology to be successful."

LET'S GET AUTOMATED

Just how automated is this system? Completely. NFT gutters are recycled through the system, starting by receiving the rockwool and then heading on a track system to seeding. Once seeded, the gutter takes a turn from the warehouse area into the greenhouse, where it's deposited in the germination chamber underneath the benches. The lower level is a nifty design from Green Automation—one that saves space and connects the germination chamber with the rest of the automated system. It moves through the chamber (again, automatically—actually, from this point on, everything up until packing is automatic so I won't keep repeating it) within three days.

It continues on the "track" and is lifted up onto the top level growing line, where gutters are spaced by the control system according to where it is in the growing process. The gutters move toward the front of the greenhouse, with those ready for harvesting moving off the growing line and onto a conveyor to travel into the packing area, where a machine cuts the leaves and sends them on to the mixing line and then to the packaging line. All told, the process takes 25 days.

Paul says, too, during the growing process he takes full advantage of his greatest natural resource: the sun.

"It's cost effective," he says. "So many people are not using the sun. It doesn't generate carbon emissions; it provides heat and it's free. That's why I'm bullish on the sun." When he can't rely completely on the sun, he has a mix of LED and HID lights to supplement.

What's striking when looking at the greenhouse is the sea of green and the uniformity of the plants. There are no unsuccessful gutters, no plants that look significantly larger or smaller than the others, and no gaps in the system. Each gutter has an "address," too, to allow for tracking and better control.

Little Leaf only grows varieties of meticulously chosen baby leafy greens for maximum efficiency, yield and profitability, and blends them in different ways to come up with the following:

Spring Mix—Arugula, green leaf, red leaf and blond leaf lettuce

Red & Green Leaf Mix—Just what it sounds like

Baby Crispy Green Leaf—The green leaf alone, which is a crisp, delicious bite (in my humble opinion) ▶

Irrigation occurs at the end of each raft, and even the water temperature is monitored for consistency.

The efficient structure of the growing operation keeps the lettuce production consistent in size and weight.

CONTROLLING THE GREENHOUSE

Since Pieter came from one of the largest organic greenhouses in Europe, he's well versed in operating under a biological control program. And that's the extent of the pest control used in the greenhouse, aside from scouting and climate control. He also has two Cornell grads helping to run the biologicals program. It's part of the value proposition for Little Leaf, which is why it's on every package: Pesticide, Herbicide and Fungicide Free.

A great amount of care went in to building out Phase 2 of the operation, too, taking elements of what they learned from Phase 1 and incorporating them. That meant tweaking the design of the actual venlo–style greenhouse for better airflow, changes in the irrigation system to allow them to change the nutrient makeup at different points in the growing process and, in Phase 3, more controls over the shade curtains to continue to work on air flow.

"In lettuce production, we're still learning. There's no standard that's been developed yet with lettuce," Paul notes, adding it's the incremental improvements that provide even more consistency and efficiency. "We can see higher yields with better climate management. Then you get to the cost position where you can compete."

Sensors are constantly measuring and monitoring in real time, reporting back everything from light, humidity and irrigation water temperature. Control panels abound on multiple pieces of machinery to be able to monitor right at the site.

Food safety is of the utmost importance, with everyone required to wear hair nets, and those in packing and shipping required to wear special clothing, hair nets and gloves. Equipment surfaces are washed down twice daily and the water constantly tested for pathogens. Little Leaf is GAP certified and moving to Global Food Safety Initiative (GFSI) certification in 2019.

That water we just talked about comes from a rainwater reclamation system, collected from roof runoff and processed through a filter and UV disinfection to kill pathogens without using chemicals before going into a holding tank. After it's used, the irrigation water is refiltered, reoxygenated, disinfected and then used again. Paul notes the natural rainwater collection system provides 100% more water than they need.

WHAT'S NEXT?

That's more of a question for Tim, who's focused on building out the consumer demand and expanding commercial reach. The company has already shown it listens to its customers—when consumers balked at bags and asked for clamshells, the company made the switch. Tim says now they're offering a bigger size in response to consumer demand. Along with 4-oz. clamshells, they're now offering 8 oz.

"We're still introducing ourselves to the marketplace," Tim adds. "Same store sales are increasing and we were tapped out at capacity with the customer asking for more SKUs."

Hence, the need for expansion, which—if all goes as planned—that Phase 3 greenhouse should be harvesting in Q4 2019. At that time, they'll continue more of the product lines they currently produce, as well as add new products.

It's no surprise, too, that consumer demand is increasing. In a recent report on trends food bloggers are seeing for 2019, locally grown produce was at the top of the list. And recent recalls on California field-grown romaine lettuce showed just how much consumers want their locally grown stuff.

"Consumers were calling and saying the grocery stores were throwing our stuff out," Tim recalls. "They were not throwing it out, they were selling out."

And while the big players in the market—the Fresh Express and Dole brands—have lots of money for advertising, Little Leaf still drives consumer interest through social media, shelf talkers in the stores and its 800 number that's visible right on the front of the clamshell. He expects to do more marketing, too, in 2019. It's all about getting the customer to know the people behind the brand, Tim says.

"Aside from being local, safe and fresh, it's getting to know us," he says. "That's what drives the brand. The people who love us really love us and they tell everyone. The best marketing is a satisfied customer."