

# HORTI-FACTS

LEDS HELP HYDROPONIC GROWER TAKE  
A LEAN APPROACH TO  
MICROGREENS AND HERB PRODUCTION



*Dan Albert and his wife Lindsay Sidlauskas, Farmbox Greens*

## CASE FILE FACTS

COMPANY	Farmbox Greens
LOCATION	Seattle, Wash.
CROPS	Production of 15-20 different varieties of microgreens and herbs on a weekly basis.
TECHNOLOGY	Philips GreenPower LED Production Module Deep Red/Blue.

*Prepared by HortAmericas 2015©  
Photos courtesy of Farmbox Greens*



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# Background

Dan Albert, owner of Farmbox Greens, purchased an aeroponic system in 2011 and started a prototype research farm. He trialed this production system for about eight months.

“I set up the aeroponic system in converted office space,” Albert said. “The floor had carpeting so I had to put down a subfloor and waterproof everything. It was a lot of trial and error. Initially I was going to grow salad greens because they are a high value product. It is also a crop that is highly perishable.

“I quickly realized that the yield was so little out of this unit that provided 100 square feet of production. But that kind of jump started me to thinking about how to turn this into a business.”

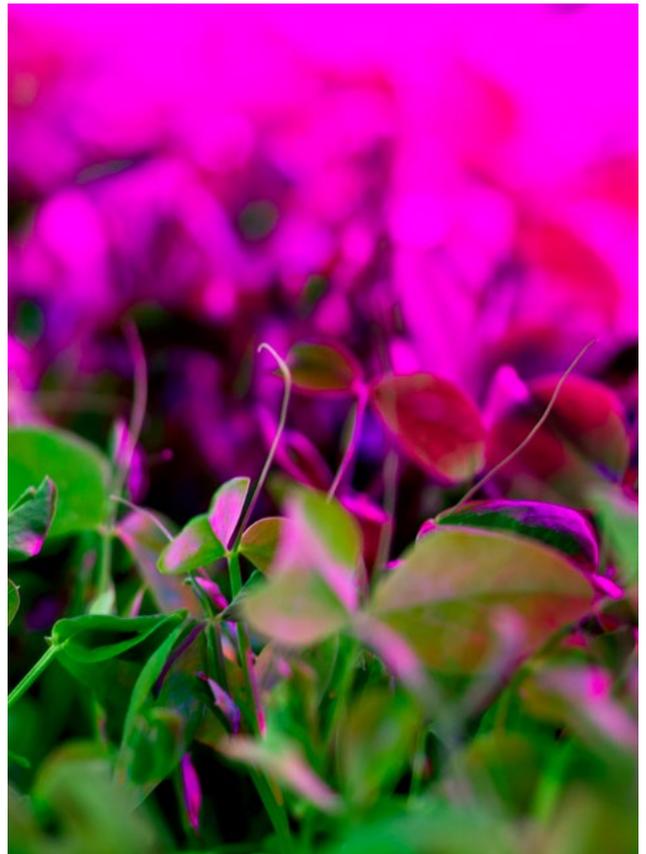
# Challenge

As Albert became more comfortable and confident producing edible crops he started to rethink how he was growing.

“I had people telling me to scale up the production,” he said. “There was a lot of interest from investors. People were saying let’s scale this up. I started to rethink how and what I was producing.

“I kind of stumbled upon growing microgreens and culinary herbs as a highly perishable, high value product that chefs wanted. Essentially I was already growing microgreens, but I was letting them continue to the baby green stage at 17-20 days. I started to harvest them after 10-14 days instead. I pitched the product to a couple of restaurants and all of a sudden people were buying our microgreens. I started selling the crops as Farmbox Greens in 2012.”

Albert said one of the challenges of having a small production space was to determine how to use it to generate the most revenue.



# Solution

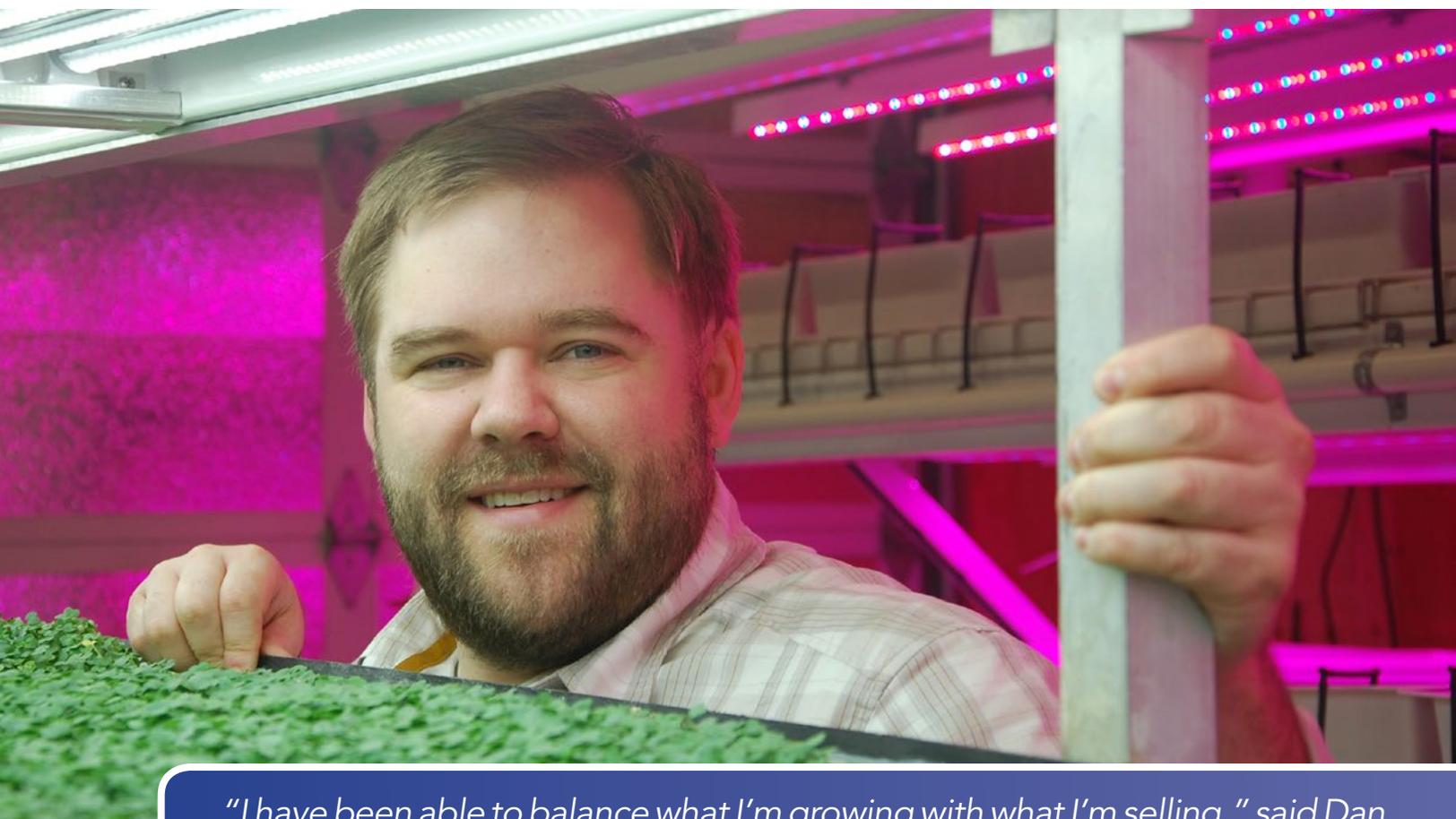
Albert purchased a new home in Seattle in 2012. The property included a 500-square-foot detached garage, which he is now using as his production facility. He restarted Farmbox Greens in February 2013 exclusively producing microgreens and culinary herbs.

Although Albert is still using his original aeroponic system, he redesigned the components and developed a vertical farm system. Microgreens are grown in trays on a moisture pad. The plants are fertilized with a recirculating nutrient film technique system.

Albert said when he was designing the vertical production system he chose the best equipment he could afford.

“I put in Philips LED Production Modules as the primary lighting source in a stacked arrangement,” he said. “I have installed one vertical system that is three levels of production and another that has five levels. I don’t need a lot of vertical height in order to grow multiple levels of microgreens. In the same building there is a harvesting area along with refrigeration and storage space. It is a functioning revenue-generating farm.”

Farmbox Greens’ customers include about 30 restaurants, local farmers markets and Marx Foods, which is a local food distributor and retailer. These customers purchase product on a weekly or biweekly basis depending on time of year.



*“I have been able to balance what I’m growing with what I’m selling,” said Dan Albert. “The next step is to identify the scale of production that I need and the customer and crop mix. My company can get bigger, but microgreens aren’t this unlimited market. It’s about cash on hand to build out the production facility. It’s about costs. It’s about efficiency. It’s about customers.”*



## Benefits

Albert said his production system has been modified so that he can efficiently produce microgreens. He applies Lean principles to his “just-in-time” approach to crop production.

“The Lean approach is kind of here’s what you need just in time,” he said. “It is based on efficiency. I tried to develop a system where, for example, today I am planting for next week’s harvest. I’m basing the planting on what was harvested last week, what I sold and what I’m projecting to sell. What I harvest in the morning is sold out in the afternoon or the next morning.

“I don’t keep anything in the refrigerator for more than three days. I don’t want to be holding product. Once you do that it hurts the quality, hurts the flavor and the overall look of the microgreens. I also want to be sure that my customers use all the product they purchase. I don’t want them to have any waste. It’s all about harvest, package, cool and deliver and then do it again.”

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