

# A FARM IN A WAREHOUSE

*Two Del Val grads create a low-cost, sustainable way  
to grow greens and help new farmers*

BY LYNNE GOLDMAN ■ PHOTOGRAPHY BY MICHAEL PERSICO



Left: coiled tubing carries the organic liquid plant food to all the crops at Veg-E Systems. Above: lettuce grown this way has pristine, dirt-free roots.

A mile or so from the center of Doylestown, in a nondescript office park, Dennis Riling and Tim Sulzer are inventing a new way to farm.

Talk to any young farmer in Bucks County, and you'll hear the same story: Hard-working and passionate, all these farmers want is to earn a living producing food. But with the cost of acreage and the scarcity of arable land due to development, it's almost impossible to start a farm that you can call your own.

Riling, 32, and Sulzer, 22, know this all too well. They met while studying horticulture and environmental science at Delaware Valley College and graduated eager to farm. "Land is expensive, and hard to come by," explains Riling, "You can't even get a USDA loan unless you own the land or have a 99-year lease." How, they thought, could they come up with a way for new farmers to get started?

It began in a barn in the winter of 2012. Sulzer and Riling wanted to test hydroponic farming that didn't require the expense of a traditional greenhouse. Their goals were straightforward: grow high-quality, nutrient-dense crops in a sustainable way with low start-up costs.

Their business, Veg-E Systems, was the result. The company has two sides. Veg-E Systems focuses on research and development. Based on the research they did as students and the reams of data they collect at the farm today, Sulzer and Riling are working to systematically identify the most productive growing conditions, the most flavorful varieties, and the best organic and sustainable practices. Veg-E Systems is also a consulting business that sells and teaches their setup to other farmers.

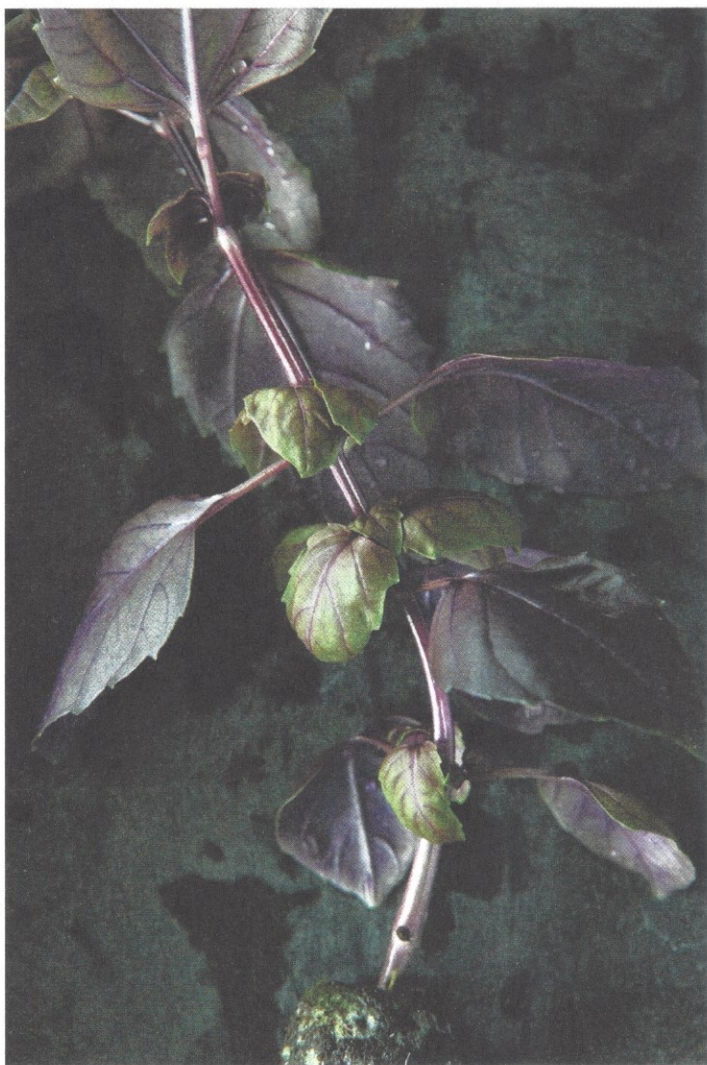
The other half of the business, Doylestown Fresh, is the retail arm, selling harvested greens and living plants to area stores and consumers year-round.

Veg-E Systems' growing floor looks nothing like farms of yesteryear, with their rolling hills and verdant fields. Instead, picture basic Home Depot shelving, built floor to ceiling, filled with row upon row of green plants, some just starting out, some ready to eat. All types of lettuce





Above: Founders Dennis Riling and Tim Sulzer with Veg-E System's production manager, Mark McDevitt. Left: Purple basil is just one of the unusual items Veg-E Systems grows.



leaves—wavy, thick, shiny, puckered, ruffled. Purples, deep reds, light greens the color of spring, and deep greens the color of a summer forest. Varieties like Salanova, Red Butter, Nevada, Magenta, Rhazes, Cherokee and Muir, and some favorites like arugula and romaine.

All growing silently amid sounds of running water and the subdued voices of farmers going about their chores. Instead of sun, the vegetables are beamed with artificial light. All around the warehouse, small computers beep and hum, while water pumps whirl. The farm-like energy of food growing laces the premises, but with a decidedly industrial twist.

There are two ways to go about this type of farming. Most hydroponic greenhouses are sterile environments using inorganic, salt-based nutrients instead of soil. Every week or two, they dump their tanks, sterilize everything and start over. It's easier, says Riling, to just use chemicals. But Riling and Sulzer are using organic practices—no pesticides, herbicides or GMO seeds—and creating the biology of soil in water.

"It's not really soil that is important but the life in the soil," Riling explains, as he shows me the compost box where the worms live. Traditional farmers manage their soil so it contains beneficial microorganisms that enrich it, like nematodes, ciliates, flagellates and fungi. Veg-E Systems is creating their own organic "soil" by composting left-over plants and food waste from a local organic juice bar and using the compost "tea" to create a liquid rich in microorganisms and nutrients. The plants' roots are then submerged in this constantly flowing solu-



tion. Imagine all the abandoned warehouses in Philadelphia. Fill them with vertical farms, maybe one in each neighborhood. Now you've got year-round, fresh produce close to the markets that need them. "Eighty percent of the American population is in urban centers," Riling says. This is a way to feed them, and do it in a sustainable and accessible way.

The concept can be stretched even further. What if you could buy your vegetable plants live and simply clip some lettuce whenever you wanted? That's the vision behind Veg-E Wall, a living system for homes, retail grocery stores and restaurants, due to launch this summer. It reduces the need for refrigeration, lowers distribution costs and provides nutrient-dense produce at your fingertips.

Sulzer and Riling have created a business model that beginning farmers can afford. It lets them start making money faster. They can take a wannabe farmer from the earliest planning stages to harvest in just 90 days. Traditional greenhouses take up to a year to start producing, and they cost a lot more money to build.

With only 160 square feet of growing space, Veg-E Systems is harvesting more than 2,400 heads of lettuce per week, most of which is sold through area stores, like the Doylestown Food Co-op, None Such Farm, Organnons, the Market at DelVal, and Kimberton Whole Foods.

"We need more farmers," Riling says. Veg-E Systems seems poised to make farming a reality for a new generation in southeastern Pennsylvania and beyond. ■

#### VEG-E SYSTEMS

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