

SIUE Alumnus Weber Provides Innovative Food Technology with GrowMotion

by Megan Wieser
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EDWARDSVILLE – Although vertical farming is a rapidly-growing industry, the practice struggles to achieve profitable returns and provide the promise of affordable healthy food for future generations. To overcome those challenges, Southern Illinois

University Edwardsville School of Engineering (SOE) alumnus Chico Weber has invented GrowMotion, a robotic grow light, to enhance vertical farm profitability and help feed the world.

GrowMotion mimics the motion of the sun by slowly passing over crops, covering the grow space of three fixed grow lights. The moving grow light is designed for farmers and food service companies that wish to reduce energy use and the cost of running grow lights in a greenhouse or indoor vertical farm.

Weber graduated from the SOE in 2013 with a bachelor's in manufacturing engineering. In January, he founded Squarefruit Labs, a research facility focused on developing technology that reduces the amount of energy needed to grow food.

“When I first started building my own hydroponic grow systems, I was blown away by the expensive price of modern LEDs,” shared Weber. “It’s a huge capital cost to cover a large indoor grow space with lights, whether they are LEDs or metal halides. This makes most indoor farms unprofitable. I saw an opportunity in the market to not only reduce energy, but also reduce the cost of covering a large space with grow lights.”

In partnership with Beloved Streets of America, Weber began searching for a solution to food deserts in the St. Louis area. Throughout the partnership, he designed and tested numerous hydroponic and aeroponic systems before utilizing 3D printing and motion control systems to create GrowMotion.

“What sets GrowMotion apart is how it uses sensors and machine learning to spread the light over crops more efficiently and most importantly, evenly,” said Weber. “This is something competitors haven’t figured out.”

Squarefruit Labs is working with a small group of local non-profits to roll out a series of community gardens that will grow food year-round using GrowMotion. These gardens will provide food locally with a higher goal of providing onsite job training in the robotics and agtech space. Weber expects the first development sites to go online in fall 2021. Currently, GrowMotion demonstration spaces are running at MADE Makerspace and the St. Louis Science Center.

Weber credits his time at SIUE with providing the hands-on experiences necessary for inventing energy-saving technology.

“I like to build products—everything from 3D printers to robotic arms to agtech solutions,” said Weber. “SIUE gave me the opportunity to get my hands dirty while working on their solar car and with their 3D printers. I learned the necessary skills to develop new innovative products within the School of Engineering.”

GrowMotion models, 10-feet and 5-feet, are currently on sale, along with tents and modular grow bed systems. For more information on GrowMotion and Squarefruit Labs, visit squarefruitlabs.com.

The [SIUE School of Engineering](#) is one of the largest engineering schools in the region. It offers comprehensive and affordable engineering programs with eight undergraduate degrees, five master's degrees and two cooperative doctoral programs. Students learn from expert faculty, perform cutting-edge research, and participate in intercollegiate design competitions. Companies in the metropolitan St. Louis area provide students challenging internships and co-op opportunities, which often turn into permanent employment. Students gain hands-on experience in the School's state-of-the-art facilities, including the new Fowler Student Design Center.

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