

HOT

UOP students bring microgreens to Calaveras County

Powell Scholars lead fast-growing experiment with Toyon students

By Joe Klarer joe@calaverasenterprise.com



Enterprise photo by Joe Klarer

University of the Pacific students in The Powell Scholars Program present the microgreen growing system that Toyon Middle School students helped assemble Saturday.

More than 30 Toyon Middle School students returned to campus Saturday to learn about the intensive microgreen growing system that produces foods in a week's time. Representatives from

the University of the Pacific Powell Scholars Program taught the technique that Toyon students now integrate into their own greenhouse.

Led by Dr. Cynthia Wagner Weick, program director and UOP professor, the Powell Scholars regularly offer assistance to both local and global communities. While projects in previous years took them abroad, like last year's outreach to Dimen, China, the scholars this year decided to extend their help to neighboring Calaveras County.

"We realized that there are a lot of other problems that are closer to home, and that are continuing and getting worse," said Powell Scholar Luis Perez.

The Powell Scholars connected with the Resource Connection Food Bank in San Andreas and longtime Program Director Jeannie Hayward as early as 2014 to try to solve the nagging inability to grow fruits and vegetables in the winter months.

"We met with Jeannie, and she told us about how people are having a hard time getting produce in the wintertime and growing produce. So we tried to come up with a system to provide fresh food year-round," Powell Scholar Nasser Saleh said.

"From that feedback (from Hayward), they created the problem statement," Weick said of her scholars. "They wanted it to be low-cost, efficient, and not use a lot of water."

The group of approximately 40 Powell Scholars spent more than a year developing the Verdevis intensive microgreen growing system, an indoor system that uses cost-effective materials to yield microgreens, small but nutrient-rich fruits and vegetables, within a week of planting seeds.

"They're basically small versions of regular plants," said Saleh. "They're very easy to grow; you just put them in the soil, spread on some water and you have your plant in a week."

The Verdevis system employs one LED light per growing unit that stays on around the clock, and interlocking poles and shelves make the units stackable and easy to organize in mass quantities.

“We did go through several dozen different types of light to find the right one that would not cost much for electricity,” Perez said. “Leaving the whole system going for a month straight only costs \$5. LED doesn’t generate heat and is very efficient.”

Perez said each unit costs about \$80 to build, and the unit can pay for itself within four to five iterations of growing, which is six weeks at the most, since microgreens are typically costly in grocery stores.

“You can get a little tub of them for like \$6 at Trader Joe’s, so they’re pretty expensive,” said Perez.

Not only do the microgreens grow rapidly, but they only require about two cups of water during the week of growth.

“That’s partially because we’re taking a tiny seed and not growing it to the full extent,” said Perez. “All the nutrients that go into making the food are now in this small plant.”

Hayward said there has been a microgreen growing unit at the food bank since early December and the produce is being passed out to families in need.

“They’re awesome. We’ve actually been handing out materials to our families about the nutritious benefit of the microgreens,” she said. “It’s been a really interesting and educational experience. We offer something unique and different, and also something to think about, because you really can grow these at home.”

Hayward put Weick and the scholars in contact with Kevin Hesser, who teaches a landscape/gardening class at Toyon Middle School and also helps out with the Calaveras High School agricultural program, and he arranged for the Powell Scholars to present the Verdevis system to the middle school students Saturday.

“Being able to interact with these other students and see the power of ingenuity and creativity, and how that can be useful within our own community and meet our own needs, I think is a

really powerful thing,” said Hesser. “The opportunity for students to interact with the Powell Scholars was invaluable. They inspired us to understand that we are all problem solvers and that college is not out of reach for anyone. So many of the students left Saturday with a new vision of what they are capable of and what is possible in their future.”

The Powell Scholars and Toyon students assembled and planted red amaranth, radish, kale and mustard seeds in a total of 10 microgreen growing units that were donated to the school Saturday. After a lunch and performance by UOP music majors, the Powell Scholars presented the 10 units that had been interlocked into a compact system. Ideas to improve the system and potential problems were discussed in the individual classrooms and then presented by the Powell Scholars, who also shared personal experiences about the value of going to college.

“I was thinking I might go to college, but after today I am going for sure,” eighth-grader Frankie Pekarek said Saturday. “There are so many cool things you can do there; I can hardly wait.”

Along with the 10 microgreens grow units that will be used in Toyon’s greenhouse, Hesser said that Calaveras students will also soon construct and use units of their own.

“To be able to have that quick turnaround and also pair it with what they’re doing in their school gardens is amazing,” he said.

The Powell Scholars hope to introduce the Verdevis system to more food banks, and have published a book detailing how to set up the system, “Cultivating Solutions: The Intensive Microgreen Growing System,” available online. All students who attended Saturday also received free copies of the book.

“With the way we engineered it, instead of helping just a specific region like we did going abroad, now we can help anyone who has access to the Internet,” Perez said.

“Cultivating Solutions: The Intensive Microgreen Growing System” is available for sale on [Amazon.com](https://www.amazon.com). A website that the Powell Scholars plan to launch in the coming weeks, [verdevis.org](https://www.verdevis.org), will have a digital version of the book available for free download.

For more information on the Powell Scholars, visit [pacific.edu/Academics/Majors-and-Programs/Special-Academic-Programs/Powell-Scholars-Program](https://www.pacific.edu/Academics/Majors-and-Programs/Special-Academic-Programs/Powell-Scholars-Program).

Contact Joe Klarer at joe@calaverasenterprise.com or 498.2076.