

# Growing vegetables indoors — without soil

Hydroponics and aeroponics can provide fresh produce even during winter

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**L**A GRANDE — No soil, no problem. An increasing number of students in the La Grande School District and at Eastern Oregon University are discovering what it is like to grow vegetables without soil.

The students are doing this via hydroponics and aeroponics, both of which involve the process of growing plants by supplying all necessary nutrients in the plants' water supply rather than through soil. Hydroponic systems have plant roots suspended in nutrient filled water. Aeroponic systems, by contrast, have plant roots suspended in air which are soaked frequently with nutrient-filled water.

An aeroponics program began operating in La Grande School District in 2020-2021 with funds from the Oregon Department of Education Farm to Child Nutrition Program. The grant has allowed for the purchase of tower garden structures, which are vertical aeroponics growing devices. Plants are grown within the six-foot tall structures in which they receive nutrient rich water.

The La Grande School District's aeroponic program is based at Central Elementary School where it is run by Finley Tevlin, a FoodCorps Service member. FoodCorps is funded partially by the federal government's AmeriCorps system and operates under the AmeriCorps system.

Tevlin is helping students in the school district grow a wide variety



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**Growing plants without soil is suitable for small-scale operations.**

of vegetation aeroponics including peas, beans, basil, tomatoes, bibb lettuce and kale. Some of the kale grown by students is now being

stations where students grow plants under the guidance of teachers Tevlin has trained. He said students take great interest in the plants

something that students grasp yet continue to find amazing.

"That the plants are getting all they need from air and water is

***"I LOVE GARDENING AND THIS GIVES ME A CHANCE TO DO IT IN THE WINTER."***

— **Finley Tevlin**, La Grande School District, talking about the district's hydroponics and aeroponics program

served to La Grande School District students at lunch.

"This is helping us to have fresh vegetables in the winter," Tevlin said.

All of the La Grande School District's schools have aeroponic

grown at the tower gardens and follow their progress closely. He noted that over the holiday break many of the plants doubled in size.

"That blew their minds," Tevlin said.

The concept of aeroponics is

very cool for the children," Tevlin said.

He said that although the tower gardens are productive and great for growing gardens indoors, they will never replace traditional agriculture.

"They are not a solution for the world," Finley said.

He said hydroponic and aeroponic systems have inefficiencies which prevent them from being able to operate on a large scale.

"They are resource and energy insensitive," Tevlin said.

One reason is that tower garden structures are made of plastic, and another is that water with added nutrients is needed. Tevlin said it is much simpler and better to grow plants in the natural soil available.

"Plants do need soil and soil needs plants to support each other within the ecosystem. This relationship keeps the planet healthy," Tevlin said.

Still, Tevlin said aeroponics systems have a valuable place in the classroom.

"They teach students to learn about the structure of plants and how they function," Tevlin said.

At Eastern Oregon University its food service program, which is contracted to Sodexo, USA, a food and facilities management company, operates a hydroponic tower station at the dining hall in the Hoke Union Building. It was set up there by Ron Wells, the general manager of Sodexo's food service operations at Eastern.

The station, located in Hoke's meal serving area, provided Eastern with a variety of fresh vegetables this past winter.

"It is a great thing for the students to experience in the middle of winter," Wells said.

He also said the tower garden is a good educational tool for students for it may spark an interest in hydroponics.

"Students check on it every day," Wells said.

The food service general manager is also delighted to have the hydroponic station on a personal level.

"I love gardening and this gives me a chance to do it in the winter," he said.