Researchers Investigating Hydroponics Use to Meet Winter Produce Demands

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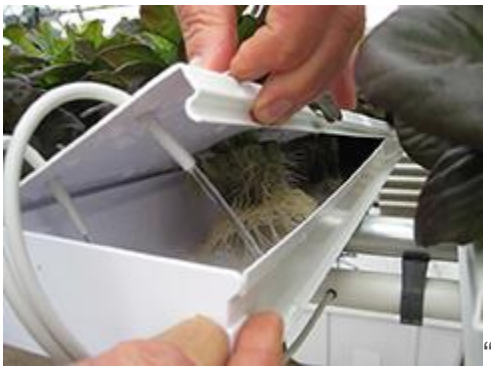
Researchers at the NH Agricultural Experiment Station (NHAES) at the University of New Hampshire College of Life Sciences and Agriculture have launched a hydroponics project that will investigate options for farmers who are trying to meet increasing demand for locally grown fresh produce during winter and increase profits in the off season.

Hydroponics is a method of growing plants in mineral-infused water, without the use of soil. Usually an inert substrate such as rock wool, sand, oasis, or peat is used to anchor the plants.



“Most of the greenhouses in New Hampshire are seasonal so there is a lot of greenhouse space that goes largely unused between October and February. That’s a huge opportunity for growers to increase profits from their greenhouses. There is increasing demand at winter farmers markets for salad greens,” NHAES researcher and UNH Cooperative Extension Specialist Brian Krug said.

After speaking with his colleagues at the University of Arkansas and Iowa State University, Krug realized that all three researchers were seeing the same need to utilize greenhouses during winter for growing produce. To support growers in their areas to be more successful with hydroponics production, the three researchers are investigating small-scale hydroponics systems that can generate a secondary revenue source for growers in winter.

“The growers see the demand from the consumer. Growers have the knowledge, ability and facilities to grow plants at that time of the year, but the facilities are not being use. This is a way to have another source of income and keep their workers employed during the winter,” Krug said.

Earlier this summer, Krug conducted preliminary feasibility tests of a UNH hydroponics system, which is housed at the NHAES Macfarlane Greenhouses. The team now is launching several research projects. He and other researchers will evaluate everything from which plants grow well in a variety of hydroponics systems and the nutrients required to the costs of the systems.

 "We'll be looking at some different cultivars and species that work well in the system, optimizing fertility, temperatures and light to optimize growth, different hydroponic systems and methods, and whether different plants adapt better to one type of system," he said.

Founded in 1887, the NH Agricultural Experiment Station at the UNH College of Life Sciences and Agriculture is UNH's original research center and an elemental component of New Hampshire's land-grant university heritage and mission. We steward federal and state funding to provide unbiased and objective research concerning diverse aspects of sustainable agriculture and foods, aquaculture, forest management, and related wildlife, natural resources and rural community topics. We maintain the Woodman and Kingman agronomy and horticultural farms, the Macfarlane Greenhouses, the Fairchild Dairy Teaching and Research Center, and the Organic Dairy Research Farm. Additional properties also provide forage, forests and woodlands in direct support to research, teaching, and outreach.

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