

Algae Harvesters, Online Market for Teachers Share CU Biz Plan Title

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Converting the carbon dioxide gas produced by craft breweries into expensive dietary supplements might seem like a far-fetched idea. But a startup with just such a business plan was named a co-champion of the University of Colorado's New Venture Challenge. The company, Superior EcoTech, shared top honors yesterday with TeacherMaps, an education tech company creating a marketplace for teachers to sell lesson plans. The winners each received \$4,500.

Superior EcoTech's idea combines three of Boulder's biggest obsessions—craft beer, dietary supplements, and carbon reduction—by capturing the CO₂ created as a byproduct in the brewing process and using it as food for algae. Superior proposes to grow algae in incubators at breweries. The algae would convert CO₂ into their food source and oxygen through photosynthesis.

The idea should work with many types of algae, said Matteo del Ninno, a co-founder of Superior EcoTech. The startup plans to begin with *Haematococcus pluvialis*, which produces astaxanthin, an antioxidant that has gained popularity as a dietary supplement.

Astaxanthin can be found in certain type of algae, krill, and salmon—it's actually what gives salmon its color—and sources are not abundant. It takes a lot of algae to produce the amount of astaxanthin nutraceutical companies need to make supplements, and the price is about \$15,000 per kilogram, del Ninno said.

Demand for astaxanthin is only a small piece of the \$170 billion market for nutraceuticals. Superior EcoTech says it could produce other algal species used to make other supplements, such as spirulina.

"It's a platform technology, so we can grow all sorts of photosynthetic algae," del Ninno said. "Right now we're going after this targeted market because there's not a lot of supply."

Superior EcoTech has an agreement to install its system at a new brewery Avery Brewing Co., a celebrated craft brewer, is building in Boulder.

Many craft brewers pride themselves on sustainability and offsetting their carbon footprints, but brewing beer generates a lot of carbon dioxide. Superior EcoTech would turn their conundrum into a selling point.

“I think a lot of breweries do think about this type of thing,” del Ninno said. “I think they are concerned, and they do want to [improve] that.”

Superior EcoTech’s heady week might not be finished. On Friday, the company is competing in a regional U.S. Department of Energy competition to identify promising clean tech companies. The winner will receive \$100,000 and a trip to Washington to compete in the national final.

TeacherMaps, the co-champion, isn’t trying to save carbon, but it could save the careers of young teachers while improving the quality of instruction, co-founder Evan Moore said.

Moore is a Teach for America alum and has learned firsthand the amount of time it takes for teachers to craft lesson plans. He said it’s a huge headache, especially early in a teacher’s career when they are slowly getting a sense of what lessons and methods intrigue students. The time involved in creating plans, which occurs outside the workday, contributes to the high attrition rates for new teachers.

TeacherMaps is an attempt to give teachers access to “maps” that include lesson plans and other materials. The plans are aligned to state and government standards, including the national core curriculum standards being adopted across the country.

Experienced teachers would create the maps and upload them. Customers would find and purchase the maps using an online marketplace designed by TeacherMaps. Customers would either be individual teachers or schools that could buy credits for maps in bulk, Moore said. The maps are shared through Google Drive or Dropbox.

Educational publishing is a large market, with the Pearson publishing company making \$8 billion last year, Moore said. Publishers provide a lot of materials, but teachers often don’t utilize them.

“Teachers don’t want to use them, because it limits their creativity,” Moore said. TeacherMaps’ community of users would rate the maps, vetting them for their suitability in the classroom, he said.

TeacherMaps raised a total of \$8,000 by winning other rounds of the CU competition. The winners were picked by some of Boulder’s leading entrepreneurs. They were Jason Mendelson, a managing director of the Foundry Group venture capital firm; Libby Cook, co-founder of the Wild Oats and Sunflower Markets natural grocers; and Glenn Russo, executive vice president of corporate strategy and development at Zayo Group, a telecommunications company.

More than 60 teams participated in this year's New Venture Challenge, which is by far a record, NVC manager Matt Burns said. The event was hosted by the Silicon Flatirons Center, part of the CU-Boulder Law School, and cosponsored by programs in several schools and departments.