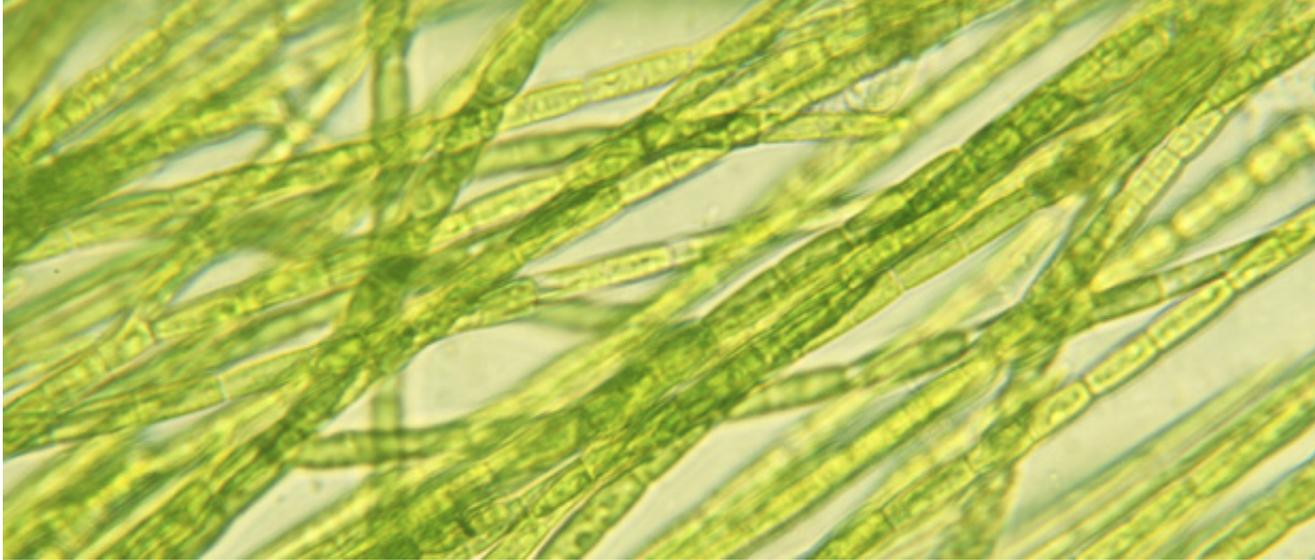


Gen3Bio Looks to Turn Tiny Algae into Big Business

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(https://techohiogov.files.wordpress.com/2015/12/slider_algae3.jpg)

Written by Kevin Volz.

When [Gen3Bio](http://www.gen3bio.com/) (<http://www.gen3bio.com/>) CEO Kelvin Okamoto looks at tiny specs of microalgae under a microscope, he can't help but see enormous opportunity. A chemist by trade, Okamoto is working to develop new bio-based chemicals and plastics made from non-traditional sources such as algae and sawdust.

"Many of the biofuels and chemicals we use today are derived from sugars of crops we grow," said Okamoto. "It takes a considerable amount of land and water to produce these crops. These resources could be used for food production instead."

Ethanol is a perfect example. Mostly made from corn in the U.S., bio-based ethanol does provide an alternative to fossil fuels. However, production of the corn is very labor-intensive. With the world's population rapidly expanding and farmland in increasing demand, non-food alternatives should be considered for the future.

“One of the primary non-food raw materials we’re looking at is microalgae,” said Okamoto. “It has a low carbon footprint, is renewable, will be accessible in very large quantities and could have a low and stable feedstock cost.”

From microalgae, Gen3Bio is working to develop biodiesel and chemicals like succinic acid and lactic acid that can be used to produce polymers and specialty chemicals. Amino acids from microalgae proteins can also be derived for potential use as healthy additives in food or for use in chemical manufacturing.

Gen3Bio has offices at [LaunchPad Incubation \(http://www.utoledo.edu/incubator/\)](http://www.utoledo.edu/incubator/) at the University of Toledo, an incubator and [Ohio Third Frontier \(http://development.ohio.gov/bs_thirdfrontier/default.htm\)](http://development.ohio.gov/bs_thirdfrontier/default.htm) partner in northwest Ohio.

“The LaunchPad team offers a lot of valuable resources,” said Okamoto. “In addition to office space and technological support, we also have the opportunity to interact with faculty and staff about new technologies they’re developing that might fit our needs.”

Gen3Bio plans to license, validate, develop and commercialize technology with the help of the Chemical and Environmental Engineering department at The University of Toledo. In the meantime, they continue applying for grants to help fund the validation process, which involves replicating the academic work on a larger scale to move toward production and commercial viability.

Once the company validates its processes and is capable of manufacturing specialty chemicals and resins below traditional petroleum-based costs, Okamoto anticipates a thriving new market.

“Biobased fuels and chemicals are the future,” said Okamoto. “The investment the state of Ohio is making in these very forward-thinking fields is impressive. I’m grateful that I can take advantage of the support they are giving me early on, and eventually, as this field grows, I want to give back to Ohio for all that we’ve been able to do here.”

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