



With help from Cornell, Pure Future growing algae, jobs in CNY

For as long as there has been life on Earth, there has been algae.

“Diatoms were there at the beginning, and they became the basic food for life,” said Lou Lamphear, executive partner at Pure Future, a

new Central New York-based company that, with the help of Cornell University, is betting that the future of agriculture will feature a revisiting of the past.

Pure Future grows a specific proprietary blend of freshwater algae in custom-built photobioreactors at its Skaneateles facility, which opened at the end of 2022. They use these algae to develop their grow solutions for agriculture.

Already, the ag-tech world is taking notice. Pure Future is the exclusive provider of Purus brand algae ag products for Cleanstrike. Other private label partnerships launching soon include Smart Algae, a brand designed for hemp and cannabis growers, Limelight, for home and garden retail, Alpha Green Solutions, a strategic partnership beginning with international markets, and a new significant turf partnership being announced soon. Meaningful distribution partnerships as well are in the process of launching later this year and into early 2024.

After more than three years of field trials, Pure Future has launched its initial product line and is entering the commercial agricultural market. What makes our products meaningful for the market, Lamphear said, is that they can outperform under standard protocol or they’re custom-tailored to solve specific issues – just like a prescription from a doctor. “Products were built from the growers needs first, backing through the layers into manufacturing ensuring that existing grow protocol is preserved, desired results are achieved, and that economic modeling fits the existing distribution and support systems in place that serve the market.”

Lamphear cited a few real-life examples of Pure Future’s impact: A hemp grower in Tennessee saw a

33% increase in growth with a foliar application, meaning the liquid product was applied directly to the leaves. In this case, Purus dry fogging technology was used to provide a dry mist of particles as small as five microns, allowing for even distribution of the algae cells, which can number in the hundreds of millions per milliliter for this application.

A wheat farmer in Virginia wanted to increase yield by 5%, and needed a product that could be used with existing irrigation equipment under existing protocol. A 15% increase was achieved in addition to soil improvements and cost savings. A tomato farm in North Carolina typically saw a 14–21-day shelf life on its crops. With the addition of Pure Future algae, the farm saw its produce stay fresh for up to 50 days. Stories and studies like these continue and are consistent across the country for Pure Future. The flexibility of Pure Future's algae blends allows for use with indoor grow environments, outdoor grow environments, hydroponically, and essentially how all plants are grown.

"Algae is only going to explode in popularity," Lamphear said. "We help solve problems today, but we can also help solve bigger problems for the future. Algae is sustainable, all natural, healthy, and leaves a much-improved biological footprint that will continue to improve our environment."

There are more than one million species of algae, but Pure Future only wants to grow specific freshwater strains they have identified and tested with proven benefits for crops. To ensure the consistency, efficacy, safety and purity of its products, Pure Future built their facility and equipment designed for maximum grow, efficient workflow, and the highest consistent quality. One example is their complex five-stage filtration and disinfection system for water that ensures their algae strains – and only their xenic algae cells – thrive.

Municipal water is first run through a resin filter to descale the water, followed by a round of reverse osmosis filtration. The water is then continuously recirculated through a high intensity ultraviolet sterilization system before being treated with ozone to kill off any remaining pathogens then treated again with ultraviolet sterilization and sub-micron filtration.

The hyper-purified water and algae flow continuously in a series of long, clear tubes that run the length of the production room covered with panels of Photosynthetically active radiation (PAR) spectrum lights so intense that protective eyewear is required for anyone inside the room. Specific, and timed, nutrition, temperature, light, and kindness all go into the algae grow.

Pure Future can currently produce around 12,500 gallons of product per month but is extending production to double output before the end of 2023. Planned expansion for its current facility in 2024 could increase its production potential to 500,000 gallons a month, creating new jobs and capacity of its operations in Skaneateles to serve customers throughout North America, and through its strategic partnership, internationally, including Europe and South America. Pure Future is perfecting other strains, blends and technologies that will increase production and effectiveness in the future.

Lamphear credits the amazing team at Pure Future, including Greg, Roy, Albert, John, Rich and Deb, its strategic sales, production, and science partnerships, and especially Cornell University's support for making such seismic growth possible.

"Cornell took us and our opportunity seriously," Lamphear said.

Pure Future began working with the New York State Center of Excellence for Food and Agriculture at Cornell AgriTech (CoE) in 2019 after being introduced by Pierre Blouin. CoE Business Development

Specialist Ed Maguire connected the company to several Cornell faculty for potential research projects, continues to assist Pure Future in acquiring funding, introduced the company to other businesses for potential strategic partnerships and provides ongoing mentorship as their business begins to grow.

“There are so many doors that started to open thanks to working with Cornell,” Lamphear said.