

January 19, 2023

Re: RFI Response: Biotechnology and Biomanufacturing Initiative

Dear USDA Officials,

BlueNalu values the opportunity to supply comments on the National Biotechnology and Biomanufacturing Initiative and commends the USDA's thoughtful and collaborative approach to advance biotechnology and biomanufacturing towards innovative solutions in health, climate change, energy, food security, agriculture, and supply chain resilience.

BlueNalu is a global leader in the development of cell-cultured seafood and recognizes the importance of the alternative protein category as an area of biotechnology that can significantly impact the advancement of initiatives in health, climate change, food security, agriculture and supply chain resilience for the future of our nation. In December of 2022, Lou Cooperhouse, founder and CEO of BlueNalu, visited Washington D.C. to participate in the Alternative Protein Stakeholder Convening with members of the USDA, as we believe we have an important perspective to share with USDA given our global leadership in this emerging category. We recognize that global demand for seafood is at an all-time high and is anticipated to increase significantly in the decades ahead, due to its health benefits and our ever-increasing population. However, our global supply is increasingly diminishing; insecure; variable; vulnerable; and can include products that may be contaminated with mercury, microplastics, parasites, and pollutants.

As a result, we are currently at the forefront of a global crisis in our supply chain for healthy protein products. We rely on animal protein as part of a healthy diet, and yet estimates from the UN FAO show that we will need a [70% increase in food production by 2050](#). Furthermore, there will be a supply chain gap representing [28 million metric tons of seafood in 2030](#) – just seven years from now. While seafood can provide people with healthy and delicious protein, our seafood supply chain simply cannot keep up, and there are not enough “fish in the sea” and resources to feed our growing population.

The United States is heavily reliant on other nations for seafood production to feed our nation. [NOAA has indicated](#) that we import 70–85 percent of our seafood and it's estimated that our national seafood trade deficit grew to \$17 billion in 2020. As a result, we are extremely vulnerable to global events that are outside our control, including climactic events, environmental disasters, or regional wars and conflicts that can cause devastation to our seafood supply.

In response to question 1a as outlined by the RFI, BlueNalu believes that a new solution is needed to provide citizens with nutritious seafood, meat, and poultry products. All forms of alternative protein – whether by cell-culturing, fermentation, or the use of plant-based ingredients – can and will play a critical role in reducing our reliance on imports, while supporting sustainability and climate change, and creating jobs, building factories, and providing healthier options for our current and future generations within the next few decades. In line with [research done by consulting firm Kearney](#), we believe that by 2040, 60% of our protein supply may originate from the alternative protein sector, with 35% of the global market share attained by cell-cultured meats (growing annually at 41% CAGR) and 25% by plant-based alternatives (growing annually at 9% CAGR), in which conventional meats will in fact become “unconventional” within just two decades. This type of growth is critical to fill the growing gap between supply and demand.

We believe that this industry requires public support on par with incentives, subsidies and support currently provided to the conventional agricultural industry, while also creating new programs to accelerate the research funding for companies in this sector. In response to questions 1b and 1c as outlined by the RFI, we recommend the following suggestions:

- At least \$200 million to create a new program called the Alternative Protein Innovation Center Demonstration Programs, that is modeled after USDA's existing [Agriculture Innovation Centers Demonstration Program](#), but modified to support the research, technology, regulatory, supply chain, consumer research, marketing, and capacity requirements that are needed for business commercialization.
- The creation of dedicated [NRCS Conservation Innovation Grants](#) that support and prioritize the alternative protein industry, as companies in the alternative protein sector, like BlueNalu, are collectively meeting the needs of NRCS and addressing our nation's conservation challenges while improving agricultural and food industry operations.
- The creation of new targeted programs within AFRI that prioritize cell-cultured solutions to ensure a long-term domestic supply of sustainable, healthy and safe protein products for our nation.
- Expansion of USDA's very successful trade promotion programs, like the Foreign Market Development (FMD) program and Market Access Program (MAP), that promote American-grown and produced food and agriculture products that are in competition with heavily subsidized foreign products.
- Prioritization of funding to the alternative protein industry within existing loan programs, such as The Food Supply Chain Guaranteed Loan Program of USDA's Build Back Better initiative that supports new investments in infrastructure and increase capacity and create a more resilient, diverse, and secure U.S. food supply chain.

Through federal support, we believe it's possible to greatly accelerate efforts in alternative protein for research & development, capacity building, infrastructure needs, and production and distribution, as well as help to strengthen existing supply chains and establish relationships that could benefit industry advancement. We look forward to continued collaboration with USDA to effectively foster the advancement of cell-cultured seafood and the alternative protein category as key biotechnology and biomanufacturing solutions.

BlueNalu is pleased to provide responses to this Request for Information and appreciates the USDA's consideration of our responses. If I can be of additional assistance, please do not hesitate to contact me at lcooperhouse@bluenalu.com. Thank you very much.

Sincerely,

Lou Cooperhouse



President & CEO
BlueNalu, Inc.