

April 21, 2020

The Honorable Nita Lowey  
Chair  
Committee on Appropriations  
United States House of Representatives

The Honorable Kay Granger  
Ranking Member  
Committee on Appropriations  
United States House of Representatives

The Honorable Sanford Bishop, Jr.  
Chair  
Subcommittee on Agriculture, Rural  
Development, Food and Drug Administration,  
and Related Agencies  
Committee on Appropriations  
United States House of Representatives

The Honorable Jeff Fortenberry  
Ranking Member  
Subcommittee on Agriculture, Rural  
Development, Food and Drug Administration,  
and Related Agencies  
Committee on Appropriations  
United States House of Representatives

Dear Chairwoman Lowey, Ranking Member Granger, Chairman Bishop, and Ranking Member Fortenberry:

We write to thank you for your commitment to plant protein research in FY20 and ask that you support federal funding for research on plant proteins and cellular agriculture in FY21. Specifically, we request your support for language in the reports accompanying the appropriation bills for Agriculture, Rural Development, Food and Drug Administration, and Related Agencies.

The attached language would direct the Agriculture and Food Research Initiative (AFRI) to spend \$20 million out of existing funds to support research proposals that advance the development of protein-rich foods for human consumption from alternative plant-based and cellular agriculture processes. Of particular interest is funding for research projects aimed at developing protein from crop plants that can be easily cultivated in the U.S. using environmentally sustainable production practices, and for open-access research projects that are easily accessible by academic researchers and stakeholders across various food value chains.

Our proposed language builds on the House Committee's strong support of AFRI and its acknowledgement that "projects that characterize protein functionality from crops to assess their sustainability for use as alternatives to conventional animal products are eligible for competitive awards in the AFRI program," as well as the Senate Committee's encouragement to the U.S. Department of Agriculture (USDA) to "support research projects that characterize protein from crop plants such as chickpeas, sorghum, lentils, fava beans, lupin, rice, oats, mushrooms, and water lentils to assess their suitability for use in food products." Allocating specific funds to support these projects is critical for advancing this intent.

Public interest and demand for alternative proteins is growing, providing a significant opportunity to diversify and enhance the economic competitiveness of U.S. food production. Total plant-based protein retail sales [reached \\$5 billion in the U.S. and grew 11 percent](#) over the past year, a growth rate almost five times higher than the total retail food market. Plant-based and cultivated meat also made headlines with, for example, Beyond Meat's historic IPO (which [Marketwatch](#) said was "the best-performing public offering by a major U.S. company in almost two decades") and Memphis Meats' successful Series B funding round.

While these developments indicate increasing interest from private investors in alternative proteins, private investment in alternative protein research to-date has been fairly modest. It is hard to estimate a dollar amount from publicly available information, but we know that roughly \$323 million has been invested in cultivated meat companies as of January 2020, compared to \$2.6 trillion in [renewable energy](#) over the last decade. However, only a small proportion of investments in companies goes to research. Thus, as [New Scientist opined in a recent editorial](#), investment in cultivated meat research has been “chicken feed for a technology that could change the world for the better.”

Public investment in research will have a significantly broader impact on spurring innovation and economic competitiveness than private investments, inspiring further research and creating new opportunities to feed Americans and the world.

*Private sector led research and development (R&D) tends to focus on near-term cost and performance improvements where the certainty of profit generation or successful market entry are greatest. The Federal role in energy R&D is strongest at the earlier stages, where the greatest motivation is the generation of new knowledge and the proving of novel scientific or technical concepts.*

[A Budget for America's Future – President's Budget FY 2021](#) (Feb. 10, 2020).

This is also true when it comes to agricultural R&D. According to USDA's [Economic Research Service \(ERS\)](#), public funding for agricultural R&D stimulates private research by opening up new technological opportunities: “an additional dollar spent on agricultural research by the public sector appears to stimulate \$0.70 in additional private R&D spending.”

Public investment in research will also stimulate economic growth and create jobs, including in rural communities. [Former Secretary of Agriculture Tom Vilsack](#) has recognized the economic benefit of investing in public research: “Studies have shown that every dollar invested in agricultural research creates \$20 in economic activity.”

Moreover, public research into alternative proteins will have additional public benefits to food safety and security, allowing us to diversify the food supply so that it is resilient to shifts in weather patterns, the emergence of crop diseases, and changing consumer preferences.

Specific research projects that could qualify for the funding we have requested include development and optimization of: (1) high-throughput screening methods for novel varieties of crops to identify improved agronomic, nutritional, and techno-functional profiles; (2) safe and efficient methods of protein extraction from plants; (3) safe and efficient techniques for improving protein functionality and structuring for plant-based foods; (4) methods of plant-based food manufacturing that are cost-effective, require minimal resource inputs, and easily scaled; and (5) the development and optimization of cell lines, cell culture media, scaffolding, and cultivators (bioreactors) for producing meat through cellular agriculture.

We will fall behind if we do not invest in critical research now. Other countries are actively supporting the development of the plant-based and cultivated meat industries, and our bioeconomy will suffer if we do not do the same. For example, the European Union announced in July 2019 that it is directing approximately \$15.7 million for plant protein research (including research into mycoproteins, which are fungi). The Netherlands spent [\\$2.3 million on cultivated meat](#) research from 2005 to 2009 and is currently spending \$6.6 million on a five-year research project to improve plant-based meat manufacturing technology. Some countries in Asia have taken an even bolder approach, with China and Singapore investing [\\$300 million](#) and [\\$144 million](#), respectively, into a variety of next-generation technologies intended to bolster their bioeconomies, including cellular agriculture. Canada, Germany, India, Israel, and Japan are making similar investments.

Congressional support for research on plant proteins and cellular agriculture can help ensure continued U.S. leadership in these promising new sectors. We urge you to make this a priority in your FY21 appropriations reports.

Thank you very much for your consideration.

Sincerely,

**50by40**

**A Well-Fed World**

**American Mushroom Institute**

**Atlantic Natural Foods, LLC**

**Better Food Foundation**

**Big Idea Ventures**

**The Breakthrough Institute**

**Brighter Green**

**Center for Biological Diversity**

**Compassion in World Farming**

**Eat for the Earth**

**Factory Farming Awareness Coalition &  
Green Monday US**

**Food Frontier**

**The Good Food Institute**

**Greenleaf Foods, SPC**

**Animal Law and Policy Clinic,  
Harvard Law School**

**Food Law and Policy Clinic,  
Harvard Law School**

**Hooray Foods, Inc.**

**The Humane Society of the United States**

**The Humane Society Legislative Fund**

**Hungry Planet**

**Impossible Foods Inc.**

**LIGHTER**

**Merck KGaA, Darmstadt, Germany**

**Mission Barns**

**Miyoko's Creamery**

**New Age Meats**

**New Crop Capital**

**No Evil Foods**

**NYU Center for Environmental and  
Animal Protection**

**Plant Based Foods Association**

**Plant-Forward Schools, MA**

**Rebellyous Foods**

**Stray Dog**

**True Health Initiative**

**Unilever United States**

**Wildtype**

cc:

Members of the House Appropriations Committee  
Speaker of the House Nancy Pelosi  
House Minority Leader Kevin McCarthy

## Report Request from The Good Food Institute

### NIFA Alternative Protein Research

**Subcommittee:** Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

**Department:** U.S. Department of Agriculture

**Agency:** National Institute of Food and Agriculture (NIFA)

**Account:** Research and Education Activities

**Program:** Agriculture and Food Research Initiative (AFRI)

#### **Brief description:**

This language directs AFRI to spend \$20 million out of existing funds to support research proposals that advance the development of protein-rich foods for human consumption from alternative plant-based and cellular agriculture processes. Topics of particular interest include the characterization of protein from plants, algae, and mycoprotein to assess their suitability for use as ingredients; techniques for improving protein extraction, functionality, and structuring in plant based foods; and developing and optimizing ways of making plant based and cellular ('alternative') proteins.

This funding level would enhance the competitiveness of U.S. agriculture by expanding national crop and protein production capacity, which would make agricultural markets more resilient to shifts in weather patterns, emergence of crop diseases, and changing consumer preferences. It would put the U.S. on par with investments from other countries and spur innovation needed to maintain U.S. leadership and food security.

#### **Requested language:**

*Open-access alternative protein research.*—The Committee recognizes the growing public interest in alternative proteins from plant and cellular agriculture, and notes the significant economic promise in this sector to diversify and enhance the economic competitiveness of U.S. food production. The Committee directs NIFA to spend \$20 million on research projects funded through AFRI to develop alternative proteins from plants and cellular agriculture, and assess their suitability for use as ingredients in food products for human consumption. Specific research projects that could qualify for this funding include development and optimization of: (1) high-throughput screening methods for novel varieties of crops to identify improved agronomic, nutritional, and techno-functional profiles; (2) safe and efficient methods of protein extraction from plants; (3) safe and efficient techniques for improving protein functionality and structuring for plant-based foods; (4) methods of plant-based food manufacturing that are cost-effective, require minimal resource inputs, and easily scaled; and (5) the development and optimization of cell lines, cell culture media, scaffolding, and cultivators (bioreactors) for producing meat through cellular agriculture. This research can be done in collaboration with other relevant programs, including but not limited to Agricultural Research Service (ARS), Small Business Innovation Research (SBIR), and the National Science Foundation (NSF). The Committee is particularly interested in research projects aimed at developing protein from crop plants such as chickpeas, sorghum, lentils, fava beans, lupin, rice, oats, mushrooms, and water lentils that can easily be cultivated in the U.S. using environmentally sustainable production practices, and in open-access research projects on the topics above that are easily accessible by academic researchers and stakeholders across various food value chains.