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Date: October 29, 2021

Christopher Lynch, PhD
OD/Office of Nutrition Research (ONR)

RE: Notice number: NOT-OD-21-183: Request for Information (RFI): Research Opportunities to End Hunger, Food and Nutrition Insecurity

Submitted via electronic mail: nutritionresearch@nih.gov

Dear Dr. Lynch and the Office of Nutrition Research,

The Institute of Food Technologists (IFT) appreciates the opportunity to provide input on the NIH Request for Information on Research Opportunities to End Hunger, Food and Nutrition Insecurity. IFT is a global organization of approximately 12,000 individual members, in 95 countries, who are committed to advancing the science of food. Since 1939, IFT has engaged experts in food science, technology, and related professions from academia, government, and industry to solve many of the world's greatest food challenges. IFT provides scientific, technical, and career development resources for advancing the science of food and its application across the global food and agricultural systems. Our mission is to connect global food system communities to promote and advance the science of food and its applications. We believe that science is essential to ensuring a global food supply that is sustainable, safe, nutritious, and accessible to all.

We applaud the NIH for their emphasis on innovative and multidisciplinary research approaches to address hunger, food, and nutrition insecurity, and recommend the inclusion of food science and technology research in their roadmap and research agenda. We agree that interdisciplinary research, including the food supply chain (e.g., crop science, post-harvest storage and transport, ingredient development, formulation, processing, and go-to-market strategies), is necessary to address food and nutrition security. IFT, in partnership with the Department of Food Science at the University of Massachusetts, Amherst, recently convened a multidisciplinary group of participants, including policymakers, food scientists and technologists, dietitians, nutrition scientists, behavioral scientists, food, nutrition, and health communicators, and consumer advocates with the objective to discuss opportunities and strategies to improve consumer adoption of the recommendations from the Dietary

Guidelines for Americans. During these sessions and roundtable discussions, many opportunities for food science and technology to improve the safety, health, affordability and accessibility of the food supply were suggested, including:

- research on technologies to make nutritious foods more affordable and accessible, such as innovative/breakthrough technologies that minimize spoilage of fresh fruits and vegetables to reduce cost and food waste
- development of technologies to enhance nutrient density by reducing food components/nutrients to limit (e.g., saturated fat, added sugars, sodium) while achieving desirable sensory qualities
- scaling and reducing the cost of technologies that improve nutrient density, such as ultra-filtration to increase milk protein and calcium, and increase the use of plant-based protein sources, such as nuts, soy, and legumes

We recognize that the COVID-19 pandemic has exposed and exacerbated many challenges to food and nutrition security in the US, including food supply chain disruption, greater diet-related health disparities, and inequities in the availability and accessibility of nutritious foods. To improve and ensure food and nutrition security for the U.S. population, particularly for the most vulnerable, resiliency and agility of the food supply chain is critical, especially during national emergencies, such as the COVID-19 pandemic. Yet, according to a recent National Academies of Sciences Engineering and Medicine report, the Federal share of research funding for food science, including food processing, preservation, and other food-related technologies, declined from 10% to 4% of the total funding for nutrition related research between 1985–2009. If research investments in the science of food, food processing, preservation, supply chain infrastructure, supply management and traceability tools do not increase, we risk much greater impacts on nutrition security than experienced during COVID-19. We encourage the NIH to consider investment to improve the agility and resilience of the food system to deliver nutrient dense foods during national emergencies, such as the COVID-19 pandemic. Areas of focus could include:

- enhancing regional storage and distribution networks, especially for healthy perishable food products with shorter shelf-life and need for special storage conditions
- incentivizing food manufacturers and transporters to invest in increasing manufacturing capacity and distribution of nutrient dense foods, in case of a national emergency
- developing regional mechanisms to accept and process perishable food products, as a contingency, in case of emergencies, such as shut down of manufacturing or processing facility(s)
- research to increase shelf-life of nutrient-dense foods that fit into a health dietary pattern and meet consumer needs and preferences
- research to develop and apply new technologies to reduce food loss and waste across the food supply chain

In addition to research, we also recommend investment in the development of tools and resources for consumers, educators, and organizations to address hunger and nutrition security, such as

- tools to help consumers prepare healthy foods/meals from nutrient dense foods
- resources to help consumers, educators and influencers understand how all forms (fresh, frozen, canned, and dried) and particularly shelf-stable processed forms (dried, frozen, canned) of foods, can be part of a healthy dietary pattern, especially during emergency situations when fresh options may be limited
- tools to mitigate consumer "pantry stocking" behaviors that lead to food shortages and rationing during early crisis phases

IFT appreciates the opportunity to provide input on the NIH Research Opportunities to End Hunger, Food and Nutrition Insecurity. Food scientists and technologists share a commitment to develop healthy, nutritious food products that improve nutrition and food security for our nation and globally. We believe that investments in food science and technology research (e.g., food safety and quality, processing, formulation, manufacturing, distribution, traceability, retail, food service, and delivery of foods and beverages) will help address challenges and transform our current system to a more resilient and agile food system that provides safe, nutritious, affordable, accessible, sustainable, and consumer acceptable food products, to help achieve long-term food and nutrition security and improve public health. Please contact John Ruff, Chief Science and Technology Officer (jruff@ift.org; 312-782-8424), if IFT may provide further assistance.

Sincerely,

John Ruff MA (Cantab), CFS
Chief Science & Technology Officer
Institute of Food Technologists