



**American Society of Plant Biologists
Comments on NIH Common Fund
NOT-RM-26-004**

September 16, 2026

Ms. Lorjetta E. Schools
Common Fund-Office of the Director
The National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892

Dear Ms. Schools,

The American Society of Plant Biologists (ASPB) appreciates the opportunity to provide input on future priorities for the NIH Common Fund. ASPB encourages NIH to consider research focused on the role of plant-derived compounds in nutrition, human health, and disease prevention, as well as fundamental research on biological systems that are conserved across kingdoms and can be more efficiently and effectively explored using plant models.

The Administration's Make America Healthy Again (MAHA) agenda has placed greater attention on nutrition, food quality, metabolic health, and understanding the root causes of chronic disease. Plant science plays a vital role in this work. Much of the current discussion around nutrition focuses on what people eat and associated health outcomes, but there is still much to learn about the biology of the plants themselves, the compounds they produce, and how those compounds interact with human biology.

Plants produce millions of specialized metabolites, many of which play roles in plant defense, signaling, and responses to the environment. Some of these compounds also have important effects on human cells and biological pathways. Paclitaxel, artemisinin, morphine, digoxin, quinine, cannabinoids, and salicylic acid are well-known examples of

plant-derived compounds that have contributed to human medicine. These examples, however, represent only a small fraction of the chemical diversity found in plants. ASPB encourages NIH to support research to better identify plant metabolites and understand their effects on human health. Areas of interest could include:

- Identifying plant-derived compounds and their molecular targets in human cells;
- Understanding how compounds found naturally in plant foods affect metabolism, immune function, and the gut microbiome;
- Examining how plant genetics, growing conditions, and environmental factors affect the nutritional and bioactive composition of foods; and
- Identifying plant genes and biosynthetic pathways responsible for compounds with potential nutritional or therapeutic value.

Advances in mass spectrometry, NMR, genomics, computational biology, and artificial intelligence make this work increasingly feasible. These tools can help researchers identify compounds present at very low concentrations, determine their structures, and better understand their biological functions.

The value of plant research to human health also extends beyond the discovery of specialized metabolites and medically relevant compounds. Plants are directly, or indirectly through their use as animal feed, the source of nearly all calories and nutrients in human diets. Fundamental research on plant primary metabolism can therefore provide a scientific foundation for improving the nutritional quality of the food supply. Research in this area has contributed to crops with enhanced nutritional characteristics, including maize and rice with higher carotenoid content, maize and millet with increased levels of iron and zinc, grains with a more balanced composition of essential amino acids, and soybeans with higher levels of omega-3 fatty acids. By supporting basic research on the regulation and biosynthesis of essential nutrients in agricultural crops, NIH can help lay the groundwork for developing more nutritious foods through plant breeding and genetic engineering.

This research could help strengthen the scientific foundation for the Administration's focus on nutrition and chronic disease. As NIH and other federal agencies work to better understand the health effects of whole foods, food processing, and dietary patterns, there is value in understanding the naturally occurring compounds in plant foods and how they affect human biology. Plant science can also help explain how genetics, growing conditions, and environmental stresses influence the nutritional composition of the foods Americans eat.

Beyond their direct connections to nutrition and medicine, plants are also important systems for studying fundamental biological processes. NIH, particularly through the National Institute of General Medical Sciences (NIGMS), supports plant research in areas such as cell and molecular biology, cellular signaling, developmental genetics, autophagy and homeostasis, protein folding and degradation, and natural products discovery.

Historically, NIH-funded plant research has addressed fundamental biological processes including cell division, RNA interference, chromatin structure, and the regulation of gene expression. Discoveries made through research on plants can provide insights into biological mechanisms that are shared across kingdoms and therefore help lay the groundwork for advances in understanding human health and disease.

Plant systems can also provide complementary approaches to animal models for answering fundamental biological questions. In some cases, their experimental characteristics allow researchers to investigate biological processes more efficiently or at scales that may be difficult to achieve in animal systems. Plant research can help answer basic questions about how cells function, communicate, respond to their environments, regulate gene expression, and maintain homeostasis. Continued NIH support for this work is therefore important alongside more targeted research on nutrition and human health.

The NIH Common Fund is particularly well positioned to complement existing investments by supporting research that spans traditional disciplinary and Institute or Center boundaries. A coordinated effort could bring together expertise that currently resides in distinct research communities, including plant biology, nutrition, metabolomics, microbiome research, chemistry, computational biology, and human physiology. Such an effort could help develop shared data, research tools, and resources while addressing questions that cross the missions of multiple NIH Institutes and Centers.

ASPB encourages NIH to continue recognizing the value of fundamental plant biology within its biomedical research mission and to include plant scientists in future discussions and research efforts around nutrition, metabolomics, food and health, chronic disease, and fundamental cellular mechanisms relevant across life forms. A better understanding of plant biology can provide important insights into basic biological mechanisms while also contributing to broader efforts to understand how diet affects human health and how the food supply can better support health and disease prevention.

Thank you for your consideration of these comments.

A handwritten signature in black ink, appearing to read "C. Taylor", is positioned above the printed name and title.

Crispin Taylor, Ph.D.

Chief Executive Officer, American Society of Plant Biologists