

**Outside Written Testimony for the record from the
American Society for Microbiology
FY 2021 Appropriations for the Agriculture and Food Research Initiative
Subcommittee on Agriculture, Rural Development,
Food and Drug Administration, and Related Agencies
Committee on Appropriations, United States House of Representatives
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Submitted on behalf of: Allen Segal, Director of Public Policy and Advocacy
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The American Society for Microbiology (ASM) is one of the largest professional societies dedicated to the life sciences and is composed of 30,000 scientists and health practitioners. ASM's mission is to promote and advance the microbial sciences.

We thank the United States Congress for its bipartisan support of the Agriculture and Food Research Initiative (AFRI) at the U.S. Department of Agriculture and for its commitment to basic, translational, and clinical microbial research funded by this program and others through the USDA National Institute of Food and Agriculture. In order to attain the goals of the recently released Agriculture Innovation Agenda, the USDA must support a broad portfolio of fundamental and applied research, integrated programs, extension, and educational programs that include training the next generation of scientists.

ASM calls on Congress to provide at least \$480 million for the Agriculture and Food Research Initiative and \$50 million for the Advanced Agriculture Research and Development Authority (AgARDA) in fiscal year (FY) 2021. We also urge Congress to chart a course for robust, annual funding increases that allows AFRI to reach its fully authorized funding level of \$700 million.

A Strong Investment in Microbial Research Pays Dividends

We live in an extraordinary time of scientific opportunity in the field of microbial research, and USDA funding plays a unique and indispensable role in supporting the discovery and application of new knowledge to real world applications. If we are to seize the current, unparalleled scientific opportunities that exist in microbial research, Congress must continue to provide robust increases for AFRI's competitive research grants and establish an additional funding line for AgARDA for high-risk, high reward research. This research can be applied to humanity's most vexing problems, including human nutrition and food security, conservation of our nation's resources, antimicrobial resistance, sustainable food and fuel production solutions. Thanks to past investments in microbial research through AFRI:

- Scientists have developed a voluntary framework for antimicrobial stewardship in animals. This addresses a critical need, as widespread use of antibiotics in animals and humans has led to increased resistance and could render these medicines ineffective.

- Scientists are learning more about how soil and root microbiome can be altered to improve plant productivity and soil health. This knowledge will help address the need to ensure the viability of fruit crops over the longer term.
- Scientists are studying ways that prebiotics and probiotics can improve gut health in humans who are obese. An unhealthy balance of gut bacteria can lead to inflammation and other intestinal disorders.
- Scientists are learning more about the role that the bovine gut microbiome plays in how cattle process feed. By deepening our understanding of this complex ecosystem, scientists hope that better strategies for sustainable beef production can be developed.

Meeting the Challenges Ahead

The domestic agriculture industry faces challenges on many fronts, from changing climates to infectious disease outbreaks to labor shortages, but many of these challenges can be addressed through the targeted acceleration of novel, early stage innovative agricultural research. This research cannot be undertaken by the private sector alone; the federal government must step in to support early-stage research through the technological and financial uncertainties that come with seeking solutions to high-risk, high-reward research questions. The 2018 Farm Bill created AgARDA for this purpose.

The challenges facing our nation’s producers and consumers are growing:

- World food demand is expected to double in the next 25 years, increasing the stress on the U.S. food and agricultural enterprise. Innovative scientific advances made possible by research will make our food and agricultural systems more efficient, resilient, and sustainable.
- The 2015 avian flu epidemic affected more than 50 million U.S. chickens and turkeys, resulting in a cost of \$879 million to the federal government, a decline in production and exports, and increased costs for farmers.
- Poor diets and foodborne pathogens cost the United States approximately \$100 billion annually in health care costs.

ASM recognizes the challenges facing our nation and the difficult decisions that must be made to ensure our nation’s fiscal health, and we believe that funding cutting edge agricultural research through AFRI will help our nation’s farmers and ranchers succeed in the 21st Century. Funding AgARDA, combined with a meaningful increase for AFRI in FY 2021 is essential for supporting microbial research to address these questions and to benefit animal, human, and environmental health.

Our nation’s ability to make significant advances in microbial sciences and improve and protect our food supply, as well as meet 21st century agricultural and health challenges, will only be possible if Congress continues its unwavering commitment to robust and sustained funding increases for microbial, food, and agricultural research through AFRI, AgARDA, and other USDA-funded research, education, and extension programs.