



**AMERICAN
SOCIETY FOR
MICROBIOLOGY**

Office of Public Affairs

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The American Society for Microbiology (ASM) is the largest single life science organization in the world, with more than 43,000 members who work in academic, industrial, medical, and governmental institutions. The ASM's mission is to enhance the science of microbiology, to gain a better understanding of life processes, and to promote the application of this knowledge for improved plant, animal and human health, and for economic and environmental well-being.

Agriculture's role in society has expanded and understanding of all steps in the process of plant and animal production, soil and water management, and harvesting, storage and processing of agricultural products is necessary. Microbes and their activities are present at each step in the process, and microbial research can enhance the five strategic goals of USDA-CSREES. Below are ASM's recommendations, which can help USDA meet the five CSREES Strategic Goals: Enhance Economic Opportunities for Agricultural Producers; Support Increased Economic Opportunities and Improved Quality of Life in Rural America; Enhance Protection and Safety of the Nation's Agriculture and Food Supply; Improve the Nation's Nutrition and Health; and Protect and Enhance the Nation's Natural Resource Base and Environment.

Research Priorities

In order to remain competitive in the world market, agriculture must continue to innovate. Below are recommendations to foster innovation and accomplish the above goals:

- Study the impact of production and processing practices on microbial evolution, persistence and resistance in animal, plant and the environment.
- Apply systems biology approach to understanding microbial communities in the agricultural production system.
- Develop a more sophisticated understanding of the nature, specificity and adaptation of microbes to food environments and human/plant, and animal hosts and host response to both pathogenic and beneficial organisms.
- Use comparative pathobiology to understand the importance of pathogens that cross animal or plants to humans.
- Pursue multidisciplinary strategies for developing knowledge and technologies to solve food and agriculture problems.
- Facilitate system approaches, long-term projects and multi-disciplinary research in food and agricultural microbiology.
- Provide educational initiatives to supply the human resource needs in the food and agricultural communities.

Increased funding for agricultural research is needed to rebuild the human resource base to answer the continuing and emerging challenges in agricultural and food systems. Microbiology research is an essential component to sustaining and improving production, food safety, and environmental quality. USDA must aggressively seek funding and identify opportunities and needs to facilitate these issues

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