

Lewis-Burke Associates LLC

U.S. Department of Agriculture

The U.S. Department of Agriculture (USDA) provides national-level leadership for the American agricultural enterprise. As the go-to experts on agricultural issues such as nutrition, food safety, resource conservation, innovative technology, and rural development, science and research is a key component of the USDA's mission and provides novel and breakthrough solutions to pressing agricultural challenges.

USDA is organized into 17 agencies and 17 offices that manage the Department's functions. Two agencies within the Department are primarily responsible for supporting the bulk of USDA's research activities: the Agricultural Research Service (ARS) and the National Institute of Food and Agriculture (NIFA). ARS is USDA's primary intramural research arm and coordinates research projects focused on broad regional or national areas of interest. NIFA is USDA's extramural research arm and replaced the Cooperative State Research, Education, and Extension Service (CSREES). NIFA contributes to USDA's Research, Education, and Economics (REE) portfolio by directly supporting basic and applied research, education, and extension programs in partnership with land-grant universities and other organizations. Within NIFA, the Agriculture and Food Research Initiative (AFRI) provides the primary source of competitive grant opportunities.

Research Scope & Objectives

Research is integral to USDA's mission but is tempered by other large programs such as crop insurance and food stamps. USDA's science and research programs seek to address five challenge areas developed in response to the National Research Council's report, *New Biology for the 21st Century* (http://www.nap.edu/catalog.php?record_id=12764), which proposed four challenge areas in food, environment, energy, and health. These five areas guide both the intramural and extramural research activities: (1) keep American agriculture competitive while ending world hunger; (2) improve nutrition and end child obesity; (3) improve food safety for all Americans; (4) secure America's energy future; (5) mitigate and adapt to climate change. NIFA annually releases seven solicitations focused on these challenge areas (detailed below). ARS has oriented its intramural science mission to address these challenges through 19 national program areas organized under four major categories: nutrition, food safety, and quality; animal production and protection; natural resources and sustainable agricultural systems; and crop production and protection.

Degree of Engagement



USDA engages with the academic research community through grants and cooperative agreements managed by NIFA's competitive solicitation process as well as through ARS regional offices and research laboratories. The Land-grant university system and its associated infrastructure serves as the foundation for many USDA research endeavors and extension offices located throughout the 50 states disseminate the science developed with USDA funding.

Signature Programs

Each year, the competitive AFRI program solicits research proposals through seven large requests for applications (RFAs), details on each RFA can be found below.

- **NIFA Fellowships Grant Program** – The Fellowships Grant program provides fellowships for predoctoral and postdoctoral students. *More information:* <http://nifa.usda.gov/fo/afrinifafellowshipsgrantprogram.cfm>.
- **Sustainable Bioenergy** – The Sustainable Bioenergy program focuses on “regional systems for the sustainable production of bioenergy and biobased products that contribute significantly to reducing dependence on foreign oil, have net positive social, environmental, and rural economic impacts, and are compatible with existing agricultural systems.” Developing renewable fuels is a top priority for the Obama Administration and this program seeks to support the *Energy Independence and Security Act of 2007* goal of 36 billion gallons/year of biofuels by 2022. *More information:* <http://nifa.usda.gov/fo/afrisustainablebioenergy.cfm>.
- **Childhood Obesity Prevention** – Obesity prevention is a top priority for First Lady Michelle Obama and USDA is focusing its resources on addressing the food system to reduce obesity among children, which the USDA states as the “number one nutrition-related problem in the U.S.” The Childhood Obesity Prevention challenge area is focused on the long-term goal of reducing obesity among children and adolescents 2-19 years. *More information:* <http://nifa.usda.gov/fo/childhoodobesityafri.cfm>.
- **Agricultural and Natural Resources Science for Climate Variability and Change** – The Climate Variability and Change program supports research activities that “reduce greenhouse gas emissions, increase carbon sequestration in agricultural and forest production systems, and prepare the nation's agriculture and forests to adapt to variable climates.” The goal of the program is to reduce the use of energy, nitrogen fertilizer, and water by ten percent and increase carbon sequestration by fifteen percent through “resilient agriculture and forest production systems.” *More information:* <http://nifa.usda.gov/fo/africlimatchange.cfm>.
- **Food Security** – The Food Security program focuses on research aimed at improving food availability and accessibility. According to USDA, food security is achieved when “food availability and food accessibility goals are met successfully.” This program seeks to increase sustainable food production and to decrease the number of individuals, families, and communities with food risk by “addressing key constraints to food accessibility and implementing solutions that enhance sustainable food systems.” *More information:* <http://nifa.usda.gov/fo/afriglobalfoodsecurity.cfm>.
- **Food Safety** – The Food Safety program supports science and research aimed at protecting the nation’s food supply from microbial and chemical contaminants present in all stages of the food chain, from production to consumption. The program supports research that explores the “interdependencies of human, animal, and ecosystem health as it pertains to foodborne pathogens.” The long-term goal of the program is reducing foodborne illnesses and deaths by improving the safety of the food supply. *More information:* <http://nifa.usda.gov/fo/foodsafetyafri.cfm>.
- **Foundational Grant Program** – The Foundational Program supports research grants in the six AFRI priority areas: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Renewable Energy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. *More information:* <http://nifa.usda.gov/fo/foundationalprogramafri.cfm>.

***Additional
Resources***

USDA Website: <http://www.usda.gov/wps/portal/usda/usdahome>

ARS Website: <http://www.ars.usda.gov/main/main.htm>

NIFA Website: <http://www.csrees.usda.gov/>

- AFRI Website: <http://www.csrees.usda.gov/funding/rfas/afri.html>