



United States
Department of
Agriculture

**Agricultural
Research
Service**

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Research for the Growing World



The Agricultural Research Service (ARS) is the principal intramural scientific research agency of the U.S. Department of Agriculture (USDA). ARS's mission is finding and transferring solutions to agricultural problems that affect Americans every day. ARS research plays a vital role in developing new scientific information and technologies to improve the production, quality, and quantity of food, feed, fiber, and fuel for Americans and people around the world.

ARS employs about 8,000 employees, including 2,200 scientists. ARS research is conducted at 100 laboratories across the Nation and a few key sites overseas.

ARS research falls under four main program areas: Animal Production and Protection; Crop Production and Protection; Natural Resources and Sustainable Agricultural Systems; and Nutrition, Food Safety and Quality. ARS's top research priorities, an integral part of its four program areas, include child nutrition and health, food safety, food security, climate change, and bioenergy.



CHILD NUTRITION AND HEALTH



The nutritional needs of children are the focus of research conducted at two of the six ARS human nutrition research centers. This work provides unique and important data on food composition and national dietary habits that serve as the foundation for many diet- and health-related studies. ARS scientists explore how food choices and dietary patterns can help maintain good health and prevent disease for everyone, from newborns to seniors. ARS researchers not only evaluate the nutritive value of foods but also develop new food varieties with enhanced nutritional value to help ensure Americans enjoy healthy, balanced meals.





FOOD SAFETY

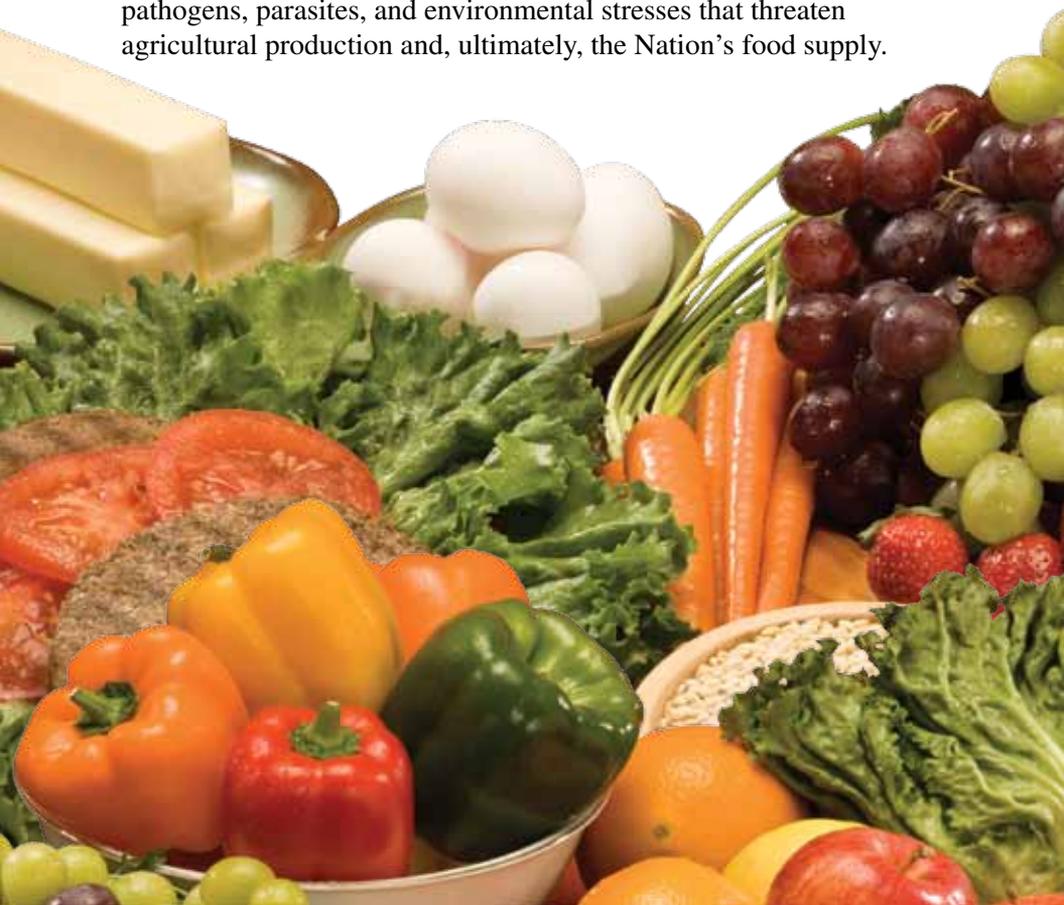


The safety of the Nation's food supply is an increasingly visible, high-priority public health issue, and ARS scientists are making every effort to develop the practices and protections needed to keep food safe for U.S. consumers. ARS scientists study and monitor a diverse array of harmful bacteria, viruses, parasites, toxins, contaminants, and other potential hazards that could contaminate the Nation's food supply. ARS researchers conduct meticulous investigations throughout the food chain—production, processing, and preparation—to find and track pathogens responsible for food-borne illness and to identify best practices for controlling them. ARS research results in practices that protect food and consumers—from farm to fork—and forms the foundation of public health, regulatory, trade, and industry efforts to monitor and address food safety issues.

FOOD SECURITY



ARS researchers are helping to meet current and future food demands by conducting studies to boost crop yields, improve livestock health and production, and protect valuable natural resources. This research contributes to the development of profitable and productive cropping systems for field crops, such as corn and wheat, and specialty crops, such as fruits, vegetables, and nuts. The ARS Germplasm Resources Information Network, the world's most comprehensive database of agriculturally important plants, preserves 511,000 samples of seeds, tissues, and plants contained in 20 ARS gene banks around the country. This network ensures that researchers can study diverse genetic plant and animal traits—from past and present—for new sources of disease resistance and other beneficial traits. ARS scientists are spearheading studies on pathogens, parasites, and environmental stresses that threaten agricultural production and, ultimately, the Nation's food supply.



CLIMATE CHANGE



As the impact of global climate change becomes more pronounced, ARS scientists are learning more about how shifts in temperature, precipitation, wind, and other weather and climate variables affect plant growth dynamics, nutrient levels in food, pastures and rangelands, and other agricultural production elements. ARS researchers are using data from lab and field studies to develop computer models to estimate crop yields, soil erosion rates, and greenhouse gas emissions from crops and animal production facilities. Research is also being done on how plants, animals, and related insect pests and pathogens respond and adapt to climate change. ARS researchers are exploring a range of environmentally sound practices to help U.S. farmers adjust production to meet climate change demands.



BIOENERGY



Finding alternative energy sources is a global mandate, and ARS is front and center in this effort. ARS scientists have been studying a cornucopia of crops—corn, barley, canola, sorghum, cuphea, and others—and processes to develop new and value-added materials and practices for U.S. bioenergy production. ARS is assessing different agronomic systems to identify the most economical and environmentally sound practices for raising and harvesting abundant bioenergy crops. The ultimate goal is to develop an assortment of crops that can be used to sustain long-term U.S. bioenergy production without disrupting existing agricultural markets for food, feed, or fiber.



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