



United States Department of Agriculture

USDA Accomplishments 2009-2012

Secretary Tom Vilsack

Research

Each day, the work of USDA scientists and researchers touches the lives of all Americans: from the farm field to the kitchen table, from the air we breathe to the energy that powers our country. USDA intramural and extramural science is on the cutting edge, helping protect, secure, and improve our food, agricultural and natural resources systems.

Strengthening our Research System

USDA has restructured its science agencies to ensure the most effective and efficient use of its resources, while leveraging the strengths of our partners across the scientific community.

- The Office of the Chief Scientist (OCS) coordinates USDA research, education and Extension with that done by scientists and researchers across the federal government, and university and private partners, to make the best use of taxpayer investments.
- In 2012, OCS continued focus on the Research, Education and Economics Action Plan and identified seven priority research topics: global food supply and security, climate and energy needs, sustainable use of natural resources, nutrition and childhood obesity, food safety, education and science literacy, and rural-urban interdependence/rural prosperity.

- The National Institute of Food and Agriculture (NIFA) was created to advance knowledge by supporting research, education and extension programs in the Land-Grant Universities and other partner organizations. In 2012, we celebrated 150 years of partnership with the Land-Grant Universities, which have educated more than 20,000,000 students and opened the doors of education to all.

Enhancing the Productivity of American Agriculture and our Food Supply

- USDA research has supported America's farmers and ranchers in their work to produce a safe and abundant food supply for over 100 years. This work has helped feed the nation and sustain an agricultural trade surplus since the 1960s. Studies have shown that every dollar invested in agricultural research now returns over \$20 to our economy.
- USDA scientists and university partners have revealed the genetic blueprints of a host of plants and animals including the genomes of apples, pigs, and turkeys, and in 2012, they furthered understanding of the tomato, bean, wheat and barley genomes -- key drivers in developing the resilience of those crops to feed growing populations. USDA researchers also created the Maize Genome Database, an important tool to help farmers improve traits in a crop vital to the world.
- USDA ranked first worldwide among research institutions publishing on priority diseases in animal health including salmonellosis, avian influenza, mycobacterial disease, coccidiosis, campylobacteriosis, mastitis and others.

- Our scientists have found the primary site where the virus that causes foot-and-mouth disease begins infection in cattle and developed an improved vaccine against the disease. They are also working on new strategies to control mites and other major honey bee problems such as colony collapse disorder.
- USDA is a leader in remote sensing and mapping to visualize data in support of agricultural policy and business decision making as well as program operation. NASS has developed and put on the Internet animated U.S. crop progress and topsoil moisture maps, along with other resources, to help experts assess farmland data.

Improving Nutrition and Fighting Obesity

- USDA scientists are part of an international team that has found a way to boost the nutritional value of broccoli, tomatoes and corn, and have worked to find ways to bolster the nutritional content of other staple crops like oats and rice.
- USDA-supported science is investigating the causes of childhood obesity so that our country can address the epidemic. In these efforts, USDA supports nutrition education programs and encourages Americans to consume more nutritious foods like fruits and vegetables. USDA research has supported these efforts, showing how healthy foods can often cost less than foods that are high in saturated fat, added sugar and/or sodium.
- In 2012, USDA updated the national assessment of rural food deserts – low-income areas with limited access to affordable and nutritious food – and provided information on the socioeconomic and demographic characteristics that distinguish food deserts from other areas, for decision-makers and stakeholders concerned about access to healthy foods.

Conserving Natural Resources and Combating Climate Change

- To help farmers and ranchers adapt and respond to global warming and changing weather patterns, USDA researchers partnered with researchers across the globe in looking for ways to help producers limit greenhouse gas emissions.
- USDA scientists are developing rice and corn crops that are drought- and flood-resistant, help improve the productivity of soil, as well as production systems that require increasing smaller amounts of pesticides or none at all.
- USDA researchers created i-Tree, urban forest management software to help cities understand the value of urban trees through carbon sequestration, erosion protection, energy conservation and water filtration, and since 2009 we have continued building on the success of the tool and expanding its use.
- USDA scientists conduct research on the use of wood, helping companies meet green building design standards and creating jobs using forest products. We also worked with Major League Baseball to reduce the occurrence of broken baseball bats.
- USDA researchers examined the potential impacts of a suite of climate scenarios on U.S. crop production. Studies like these will help policymakers, farmers, industry leaders and others better understand the effects, and adapt to, a changing climate on America's crop production.
- USDA supports families managing through tough economic times by helping residents save energy at home and conserve water, with a program run by Cooperative Extension and our land-grant university partners. Participants in the program saved an average of \$350 per year on utility bills.

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