

RESEARCH, EDUCATION, AND ECONOMICS

**Statement of Dr. Catherine E. Woteki, USDA's Chief Scientist and Under Secretary
Before the Subcommittee on Agriculture, Rural Development,
Food and Drug Administration, and Related Agencies**

Chairman Aderholt, Ranking Member Farr, and members of the Subcommittee, my name is Catherine Woteki and I am the Chief Scientist and Under Secretary for Research, Education, and Economics (REE) at the United States Department of Agriculture (USDA). I am pleased to appear before you to discuss the President's Fiscal Year (FY) 2015 budgets for the REE mission area agencies. I am accompanied by the leaders of our four agencies: Dr. Chavonda Jacobs-Young, Administrator of the Agricultural Research Service (ARS); Dr. Sonny Ramaswamy, Director of the National Institute of Food and Agriculture (NIFA); Dr. Mary Bohman, Administrator of the Economic Research Service (ERS); and Dr. Cynthia Clark, Administrator of the National Agricultural Statistics Service (NASS). Also joining us is Donald Bice, the Associate Director of the Office of Budget and Program Analysis. Each agency has submitted written testimony for the record, which provides highlights of their proposed budget. I would especially like to take note of Dr. Jacobs-Young, who was appointed Administrator of ARS last month. Prior to joining ARS in 2012, she appeared before this committee as the Acting Director of NIFA and had previously served in the White House Office of Science and Technology Policy. I also note with regret that Dr. Clark has recently announced her retirement. Her service to NASS and USDA has been invaluable and I'm sure the committee joins me in wishing her the best in retirement.

Implementing the Agricultural Act of 2014

In addition to the preparation and presentation of the President's FY 2015 budget proposal, every agency in USDA has been hard at work implementing the Agricultural Act of 2014 (the Farm Bill). USDA has created a team, headed by Deputy Secretary Krysta Harden, to begin work on implementation of the law, and REE is part of that team. Our budget proposal includes additional reporting information for NIFA, ARS and ERS, which is required by section 7513 of the Act. Further, we have submitted to the Committee a report that details the research accomplishments of the Department in FY 2013 and includes a five year projection of REE's research priorities, also required by section 7513. We look forward to having discussions with you and your staff in the future about how this annual report can best serve your needs.

One of the largest tasks REE has in implementing the Farm Bill is the creation of an independent Foundation for Food and Agriculture Research. This new non-governmental entity will have the ability to leverage \$200 million in public funds to attract matching contributions from the private and non-profit sectors. This funding infusion will provide a much needed boost to the ability of the Nation's agricultural research apparatus, both public and private, to address the most critical questions and problems faced by producers. As stated explicitly in the law, this Foundation will supplement, not supplant or duplicate, ongoing research efforts within the Department or our University partners.

The Foundation provides USDA with an effective tool for fostering public-private partnerships, part of an administration-wide focus to identify private-sector partners to leverage Federal funds and increase technology development efforts. Empirical evidence suggests that

public food and agriculture research complements, rather than competes with, private research. Public investments in science and technology create new opportunities for private research to result in new products and processes for economic growth. Without continued robust public investments in science, it is likely that private investments will also taper off in the future as fewer technology opportunities emerge for private commercial development. This could undermine U.S. global competitiveness in agriculture, especially as other countries strengthen their research investments. The U.S. is no longer the world leader in public funding of agricultural science. Since 2009, China's spending on agricultural research has exceeded that of the United States. Brazil and India have also significantly increased their spending on agricultural research in recent years while the U.S. investment has lagged. Partly as a result, U.S. agricultural productivity is now growing more slowly than that of both China and Brazil. USDA research agencies continue to develop new strategies for partnering with private firms through their technology transfer policies. These policies are designed to facilitate technology transfer from public laboratories to private firms, decrease private costs of product development and commercialization, and stimulate more private investment in research and development.

Priorities in the FY 2015 Budget Proposal

In December of 2012, the President's Council of Advisors on Science and Technology (PCAST), recommended the creation of six large, multidisciplinary Innovation Institutes (Institutes) focused on emerging challenges to agriculture, supported by public-private partnerships with an investment of \$25 million for each Institute. In line with that recommendation, the budget will utilize \$75 million to initiate this program and create three institutes focused on discrete areas of research. The Institutes will be virtual organizations that include multiple partners from academia, the private sector, Federal labs, and others. These

public-private partnerships will take advantage of USDA's unique intramural laboratory assets, and provide financial leverage through funds administered by NIFA as a competitive program. The Institutes will bring together academia, research organizations, and businesses to conduct research that is complex and focused on the major challenges to agriculture in the 21st century.

The first focus area for these institutes will be on Pollination and Pollinator Health (PPH). Honey bee colony collapse disorder (CCD) and other pollinator declines have led to rising concern among scientific and agricultural communities regarding the health of these insect populations, the risks posed to pollinator services and the implications for agriculture. The causes of the decline remain uncertain, and are likely multi-faceted through a combination of poor nutrition and loss of natural forage, parasites, stress from transportation, and pesticide exposures. Bees pollinate more than 90 crops and are responsible for \$15 billion in added crop value. Half the nation's bees are needed to pollinate almonds alone, a \$3 billion crop with increasing acreage. The PPH Innovation Institute will utilize input from stakeholders to develop priorities for addressing biological, environmental and management issues associated with the wide-scale decline of honey bees and other pollinators nationwide.

The \$25 million increase for pollinator health for this Institute is part of the President's commitment to a government wide response to the large and ongoing declines in pollinator populations in the U.S. and world-wide. In total, USDA is proposing to commit \$71 million to this initiative in FY 2015, of which \$48 million will be in the REE Mission Area.

A second Institute will focus on the building of a National Network for Manufacturing Innovation (NNMI), consisting of regional hubs that will accelerate development and adoption of cutting-edge manufacturing technologies, by focusing on bio-based product development and manufacturing. The Institute will also focus on supporting commercialization of products

developed from basic and applied research through partnerships with private industry. Projects selected for funding will achieve short-term economic benefits, while simultaneously building a strong foundation for future basic research. USDA will consult with other Federal partners including DOE to ensure the NNMI is designed to complement existing efforts.

The Antimicrobial Resistance (AMR) Innovation Institute will address AMR through a systems approach from the farm to the consumer while engaging health-related practitioners. This approach will utilize public-private partnerships of multi-disciplinary teams of animal, agricultural, social and behavioral scientists. The one-dimensional intervention approach targeting the food consumed—specifically meat—is inadequate to achieve true mitigation of AMR. The environment, including soil, water, and wild and domesticated animals plays a significant role in the development and occurrence of AMR along the food chain. Through this Institute, NIFA will support the generation of evidence-based data to address known and emerging information gaps to mitigate AMR.

Further demonstrating USDA's commitment to a safe and secure food supply is our request for \$2.5 million to establish a program to provide food safety training, and outreach to owners and operators of small farms, food processors, and fruit and vegetable vendors affected by the Food Safety Modernization Act (FSMA) of 2011. The program will target small and medium-sized producers, as well as beginning and socially disadvantaged farmers, to focus on helping key target audiences understand and interpret new Federal food safety guidelines enacted under FSMA. This will enable producers to develop and implement those guidelines in their respective environments. This funding will facilitate a partnership with the Food and Drug Administration, who is charged with implementing FSMA, to jointly coordinate the program.

For NIFA, the President's Budget requests \$1.34 billion and continues its support for NIFA's core programs, including \$325 million for AFRI. AFRI is NIFA's flagship competitive grants program for research, education, and extension and it provides funding for projects that address critical issues in U.S. agriculture in a variety of program areas. AFRI will support efforts to help farmers, ranchers, forest owners, and rural communities adapt to climate variation, reduce greenhouse gas emissions, and increase carbon sequestration. Additionally, it will continue to address childhood obesity prevention for children and adolescents in the populations of greatest risk, including those eligible for USDA nutrition education and food assistance programs. Elsewhere in NIFA, the budget proposes \$2.5 million for a competitive FARM-Vets program that explores career opportunities and pathways, therapeutic interventions, resource conservation, and related studies for the veteran population in the food and agriculture sector.

In its budget, ARS proposes \$44 million for a new research on climate resilient land, crop, grazing, and livestock production systems. One of ARS' key program goals is to better understand the effects of climate change and its impacts on crops; range lands; pasture systems; and pests, weeds, and plant and animal diseases. Within this proposed initiative, ARS will utilize and strengthen USDA's Climate Regional Hubs, and develop adaptive technologies, practices, and strategies to mitigate the effects of climate change and minimize the detrimental effects on the Nation's soil, water, and air resources. Another ARS initiative directs \$26 million to focus on crop and livestock genetic improvements and translational breeding for enhanced food production. Translational breeding is the adaptation of information derived from genome technologies for crop and livestock improvement. Under this initiative, ARS will advance this science and increase agricultural productivity and resiliency by developing genetic resources and tools, and advanced molecular techniques.

ERS continues to develop a variety of tools useful to both consumers and producers. The Food Access Research Atlas (FARA) is a mapping tool that presents a spatial overview of food access indicators for low-income and other census tracts using different measures of supermarket accessibility. Since its release, the FARA tool has been ERS' most viewed data product.

Another successful ERS tool is the annual Agricultural Resource Management Survey (ARMS), which is USDA's primary source of information on the financial condition, production practices, and resource use of America's farm businesses and the economic well-being of America's farm households. Sponsored jointly by ERS and the NASS, ARMS is the only national survey that provides observations of field-level farm practices and the economics of farm businesses.

In February of this year NASS issued a preliminary release of 2012 Census of Agriculture data that contained high level estimates at the U.S. and State level. In May 2014 NASS intends to release the full Volume 1 series of data at the U.S., State and county level. Additionally, in FY 2015 NASS will restore several reports that were previously reduced or eliminated due to budget reductions in 2012. This includes the chemical use data series, allowing more frequent data on major row crops, and fruit and vegetable chemical use data on an alternating year basis. Also restored, is NASS' annual Fruit and Vegetable program. In 2015, NASS will augment this report by providing the in-season forecasts for fruits and nuts, including the monthly crop production reports and annual production reports for cherry and cranberry.

The President's FY 2015 Budget Request includes a separate Opportunity, Growth, and Security Initiative (OGSI) of \$56 billion that is designed to spur economic progress, promote opportunity, and strengthen national security through additional discretionary investments. REE is well represented in this package through a number of high priority programs totaling approximately \$277 million in targeted investments. The Initiative includes more than \$197

million for ARS, the bulk of which is dedicated to fully replace the Southeast Poultry Disease Research Laboratory in Athens, Georgia. In 2012, a review of ARS' capital infrastructure was completed and this laboratory was identified as the highest priority facility recommended for modernization. Construction of a new facility will enable USDA scientists to more adequately address emerging or exotic poultry diseases which threaten not only the Nation's poultry industry but also the health of Americans. The OGSF also includes funds directed at climate change resilience, earth sciences, translational breeding and additional funding targeted at finding alternatives to antibiotics used in agricultural production. Finally, the OGSF provides \$80 million to enhance NIFA's base capacity and competitive programs, including \$60 million for AFRI and \$20 million for competitively awarded grants for Hatch and Evans-Allen.

Mr. Chairman, as you can tell from my testimony and our 2015 budget initiatives, USDA-REE is focused on building on our foundation of a robust research infrastructure through a concerted effort to develop wide-reaching public-private partnerships. Adding the Foundation for Food and Agriculture and the Innovation Institutes to our intramural and competitive programs will engage the private sector and create a cohesive and comprehensive team of scientists engaged in the solving the world's toughest agricultural challenges. As we do this however, I feel it is important to address how these programs complement our ongoing work, rather than duplicate it.

The NIFA Agriculture and Food Research Initiative (AFRI) pursues research, education, and extension activities that provide science based solutions to address major agricultural challenges of national, regional and multi-state importance. Many of these solutions, which are in agricultural producers, consumers, and the public's best interest, would not justify major corporate investment or disparate private support may be too difficult to assemble efficiently.

However, the country is facing large emerging challenges which would justify major corporate investment and private support may be assembled more efficiently. The Innovation Institutes are designed to provide an overarching structure in the United States that supports sustained, interactive research between public and private scientists interested in specific agricultural challenges. The Foundation for Food and Agriculture Research will operate as an independent entity with its own governance structure. It will pursue fundraising from individuals, corporations, charitable foundations, and other sources. Funding and research will complement existing research conducted by the Agricultural Research Service, research funded by NIFA, and bridge gaps between public and private science.

I believe the initiatives I have highlighted, as well as the high-priority budget increases the REE agencies have requested in their proposals, are critical to sustaining and enhancing the well-rounded research portfolio of the Department of Agriculture.

Mr. Chairman, I look forward to working with you as we continue to support a world-class level of science at the Department of Agriculture to maintain and increase the strength of U.S. Agriculture. Thank you again for your time. My colleagues and I would be pleased to answer any questions you may have about the REE budget proposals.