

RESEARCH, EDUCATION, AND ECONOMICS

Statement of Dr. Catherine E. Woteki, USDA 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 distinguished members of the Subcommittee, I am pleased to appear before you to discuss the activities of the Research, Education, and Economics (REE) mission area of the United States Department of Agriculture (USDA) and to present the President's Fiscal Year (FY) 2017 budget request for the Agricultural Research Service (ARS), the Economic Research Service (ERS), the National Agricultural Statistics Service (NASS), and the National Institute of Food and Agriculture (NIFA).

I am accompanied by the leaders of our four agencies: Dr. Chavonda Jacobs-Young, Administrator of ARS, Dr. Mary Bohman, Administrator of ERS, Mr. Joseph Reilly, Administrator of NASS, and Dr. Sonny Ramaswamy, Director of NIFA. I am also joined by Mr. Michael Young, the Director of USDA's Office of Budget and Program Analysis. Each agency has submitted written testimony for the record which provides highlights of their proposed budget.

In his testimony before this Subcommittee on February 11, Secretary Vilsack demonstrated USDA's commitment in providing high level service to this Administration's unwavering commitment to advancing rural economic opportunity, improving the family farm profitability, ensuring the safety of our food, expanding export opportunities, strengthening local food systems, protecting our natural resources, addressing civil rights and combating hunger and malnutrition. As a result, the agricultural sector growth has been strong over the past seven years.

The REE mission area agencies were critical to the strong growth by supporting the critical research our country needs to keep our food supply safe, secure, and abundant, improve nutrition for lifelong health, address climate and energy needs, and ensure sustainable use of natural resources. For example, ARS works to enhance and protect agriculture and to transfer research results to the marketplace where they serve the needs of a wide range of users. By

funding research at land-grant universities, as well as other universities and research organizations, NIFA integrates research, education, and extension to ensure that groundbreaking discoveries go beyond the laboratory and make their way to the farms, ranches, classrooms, and communities where Americans can put the knowledge into practice and improve lives. The economic research and analysis work of ERS guides policy throughout government and provides vital information to consumers, other researchers and the marketplace. Each year, NASS conducts hundreds of surveys and produces accurate, timely, and useful statistical data on commodities comprising 97 percent of US agricultural cash receipts. Farmers and ranchers, governments, commodity markets, businesses, researchers are among those who depend on these statistics to make informed decisions.

The World Bank reports that the world needs to produce at least 50 percent more food to feed nine billion people by 2050, in a way that is both sustainable over the long term and resilient to climate change. The REE mission area is committed to this charge, and continued investments in research will ensure sustainable, profitable agricultural production and greater choices for consumers. Studies have shown that investments in research and development show a payoff of from 10 to 30 times the initial investment returns to the economy. The United States needs to increase its investment in publicly-funded research and development in order to remain competitive with other countries that are currently increasing their investments. The President's FY 2017 budget underscores the critical importance of research and development, and today, I will elaborate on these highlights.

Mr. Chairman, the President's FY 2017 budget requests a total of \$2.9 billion in discretionary funds for USDA's primary scientific, research, and statistical agencies. The \$1.37 billion for NIFA and the \$1.28 billion for ARS represent the lion's share of USDA's commitment to intramural and extramural agricultural science activities, respectively. The President's budget requests \$91 million for our Nation's premiere agricultural economics research agency, ERS and \$177 million for the NASS whose mission focuses on comprehensive data collection in the food and agriculture sectors, and includes the Census of Agriculture.

AGRICULTURAL RESEARCH SERVICE

Some of the key proposed investments of ARS for FY 2017 reflect the Administration's strong commitment to the many facets of intramural agricultural research that tackles major crosscutting issues.

Over the past several years, antimicrobial resistance has emerged as a serious health threat to both animals and humans, and last year, USDA released its action plan as a part of a coordinated Federal response. Our understanding of the development and spread of antimicrobial resistance is still incomplete. ARS's budget requests a \$22 million increase which will support the coordinated Federal effort, and devise mitigation strategies to reduce the use of antibiotics and develop alternatives. These include identifying specific nutrients with beneficial immune properties, researching the gut microbiome to understand its effects on immune development, and developing highly effective vaccines.

Last year, the U.S. witnessed one of the worst animal disease outbreaks in our history. The highly pathogenic avian influenza (HPAI), deadly to chickens and turkeys, affected more than 15 States with the Federal Government paying more than \$1 billion in eradication efforts. ARS's FY 2017 budget includes an additional \$10 million to develop improved avian influenza vaccines and support the establishment of national and international networks to prioritize and develop immune tool kits for animal species of economic importance.

ARS's FY 2017 budget also includes \$19 million to develop more climate resilient agricultural production systems by utilizing a multi-prong approach to address climate change's risk to agriculture. ARS will: (1) identify and evaluate management practices that maximize the genetic potential to achieve optimal yield and quality with climate change; (2) advance the understating of climate change effects on pests and beneficial insects; (3) develop the means to reduce vulnerability to water variability; and (4) determine the relative degree of production sensitivity among different animal and cropping systems to projected changes of climate, among others. ARS will engage the USDA Regional Climate Hubs, established as public-private partnerships, to advance regionally-specific mitigation and adaptation technologies.

We all know that water quality and availability are becoming an increasing concern, with the long-term drought in California being one example. ARS's FY 2017 budget invests an additional \$15 million to support a safe and abundant water supply to support U.S. agricultural production, with equal amounts of \$5 million allocated to respond to the California drought, to

improve the efficiency of agricultural production through the use of “non-traditional water”, and to improve the forage in the Great Basin.

A final example is ARS’s FY 2017 budget request of \$94.5 million to modernize ARS’s aging infrastructure, and which builds upon the \$212 million provided in FY2016, as part of the long-term facilities modernization plan requested by the Congress in 2012. Phase 1 of the Agricultural Research Technology Center in Salinas, California, investigates alternatives to methyl bromide as a soil fumigant for control of soilborne pests and develops scientifically based organic crop production practices and methods for weed, insect and disease control. ARS will also modernize the Foreign Disease-Weed Science Research Lab, in Ft. Detrick, Maryland, which researches foreign plant pathogens posing potential threats to American agriculture. These investments reflect the Administration’s recognition of and commitment to the diversity of agriculture production systems.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Our extramural research, managed by NIFA has key proposed investments in the President’s FY 2017 budget. The 2017 budget proposes funding of \$375 million in discretionary funding for the Agriculture and Food Research Initiative (AFRI), a \$25 million increase for sustainable clean energy issues. In addition, the budget proposes \$325 million in mandatory funding. This would fully fund the program at its authorized level. AFRI’s peer-reviewed grants invest in both fundamental and applied food and agricultural sciences and research funded by AFRI touches nearly every aspect of our lives; from plant and animal production to food safety, human nutrition, and health. USDA has a great partnership with the 1890 Institutions, which are historically black universities established under the Second Morrill Act of 1890, and as the US demographic changes, the development of a diverse agriculture workforce is essential. NIFA’s FY 2017 budget request includes \$10 million to be used for three centers that will increase coordination and collaboration between USDA and the 1890 Institutions.

Each center will focus on a specific need: creating an integrated center to benefit small farms, ranches and forest landowners in high poverty areas; establishing a virtual center to support the science, technology, engineering, agriculture, and mathematics pipeline of students and address the growing need for talented career candidates to meet future workforce needs; and

satisfying the Nation's need in the areas of international engagement and global food security to increase international cooperation, trade and development.

The President's budget seeks an increase of about \$7 million to enhance research, education and extension efforts in tribal areas through 1994 Institutions, congressional defined tribal college, and the Federally Recognized Tribes Extension Program (FRTEP). This latter increase will effectively double the number of FRTEP staff engaged in 4-H activities to 72, helping to serve more tribal youth.

The budget also includes \$10 million in mandatory funds to establish the endowment fund for Hispanic Serving Agricultural Colleges that will lead to significant and measurable advancement of Hispanic students in the food and agricultural sciences. The appropriation of \$10 million will remain at Treasury and be invested in Treasury securities, with the interest serving as the funding to support these colleges.

A final example is NIFA's FY 2017 budget request for \$2.5 million for a new competitive program for our military veterans. The FARM-Vets Program will provide our veterans the skills needed to enter the agricultural industry, thereby increasing the number of beginning farmers and ranchers. Supporting cutting edge research, working with our minority serving institutions and providing assistance to beginning and small farmers, ranchers and forest landowners across this country are just a few examples that highlight the Administration's investments to strengthening the agricultural economy.

ECONOMIC RESEARCH SERVICE AND NATIONAL AGRICULTURAL STATISTICS SERVICE

The REE mission area also includes two agencies that focus on research analysis and statistical data collection and reporting. The ERS and NASS support USDA agencies' data needs, as well as, those of producers, policymakers, markets, and consumers.

The President's FY 2017 budget requests an increase of \$4 million to update the 2012 National Household Food Purchase and Acquisition Survey, which will examine the relationship between food programs, food choices and policies. In addition, the President's budget includes an increase of \$500,000 as part of the Secretary's initiative on New and Beginning Farmers and Ranchers, for analysis to examine the demographic characteristics of new farmers and ranchers to help better inform policy decisions, and \$626,000 for expanded research on the economic and policy drivers of increasing drought resilience.

The FY 2017 budget proposal for NASS seeks an increase of \$3 million to survey beginning farmers at a regional level of detail for policy decisions. NASS's request also contains requests to build on existing NASS' surveys to establish baseline information as part of the Federal initiative to combat antimicrobial resistant bacteria. Like other statistical agencies, NASS protects individual sources of information as it gathers them, but is able to present statistically accurate picture of impacts from its studies.

Mr. Chairman, these are highlights of the many activities the REE mission area agencies are proposing for FY 2017. REE's innovative agricultural research along with its capacity to build the pipeline, are fundamental to a strong agricultural economy. The President's FY 2017 budget request for the REE mission area embraces this concept in many of its initiatives.

Mr. Chairman, and members of the Subcommittee, the REE agencies look forward to working with you. I would be glad to answer any questions at this time.