

AGRICULTURAL RESEARCH SERVICE

**Statement of Dr. Chavonda Jacobs-Young, Administrator
Before the Subcommittee on Agriculture, Rural Development,
Food and Drug Administration, and Related Agencies**

Mr. Chairman and members of the Subcommittee, I appreciate this opportunity to present the Fiscal Year (FY) 2015 Budget request for the Agricultural Research Service (ARS). The President's FY 2015 Budget request for ARS is \$1,104,403,000, a net decrease of \$18,079,000 from the FY 2014 enacted budget.

Under its Salaries and Expenses account, ARS' FY 2015 Budget requests increases of \$73.9 million in new and expanded research program initiatives, \$7.1 million for pay costs, and \$4.7 million for decentralized General Services Administration (GSA) rental and Department of Homeland Security (DHS) security payments. The agency proposes offsetting these increases with \$103.8 million in research program reductions and reallocations. Specific information about the components of ARS' FY 2015 Budget are as follows:

Proposed Research Program Initiatives (\$73.9 million)

Climate Resilient Land, Crop, Grazing, and Livestock Production Systems -- \$44 million

The current rate of agricultural productivity growth is lagging behind the world's expanding needs. By 2050, global agricultural demand is projected to grow by 70 to 100 percent due to population growth, energy demands, and higher incomes in developing countries. Meeting this demand for increased agricultural productivity will require development of production systems which are more resilient to the impacts of changing climates and improved stewardship of the Nation's natural resources. Unless land use

practices are made more sustainable, the productive potential of our land, water, and genetic resources will continue to decline.

Climate change will impact our agriculture and natural resources through higher temperatures, elevated carbon dioxide concentrations, changes in precipitation, and increases in weeds, pests, and diseases. Climate change will adversely impact all aspects of food security, from food production to availability. The challenge is to mitigate the effects of climate change and adapt to its unavoidable consequences.

In its FY 2015 Budget, ARS proposes \$44 million for a new research program initiative: 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.

Under the projected stresses of changing climate conditions, agricultural production must be enhanced on existing crop, pasture, and range lands. Research is needed to better integrate forage and food animal production systems, to provide improved production efficiencies and essential ecosystem services that ensure continued productivity and environmental sustainability.

Within the 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. New knowledge on the exposure and sensitivities of agroecosystems to climate change, management tools to compare production systems under various climate change scenarios, and technologies and strategies to enhance sustainability will be developed. Plant varieties and animal breeds will be introduced that are less vulnerable to the negative impacts of climate change and extreme weather events. Integrated animal and crop production systems will be developed that are better adapted to heat and water stress, diseases, and parasites.

In carrying out this research, ARS will partner and collaborate with numerous Federal agencies, universities, and private industry while continuing to develop the tools and infrastructure needed to handle the “big data” revolution and accelerate the pace of scientific discovery.

Advanced Crop and Livestock Genetic Improvements and Translational Breeding for Enhanced Food Production -- \$25.9 million

Meeting the world’s growing needs through greater agricultural productivity will require significant crop and livestock genetic improvements. The need to produce more food, more efficiently is unquestioned.

Genetics continues to play a major role in improving agricultural yields. For example, over the past 40 years, genetic improvements in dairy herds, through genetic selection, have contributed to increased milk yields. However, genetic improvements in beef herds and fish stocks have been much less dramatic. Scientific breakthroughs in new genetic technologies hold the key to agricultural productivity growth.

In its 2015 Budget, ARS proposes \$25.9 million for its other major new research program initiative: Advanced Crop and Livestock Genetic Improvements and Translational Breeding for Enhanced Food Production. Establishment of a “Translational Breeding Initiative” has been strongly recommended by the President’s Council of Advisors on Science and Technology on Agricultural Preparedness, agricultural stakeholders, and others. Under this initiative, ARS will advance “translational breeding,” that is, the adaptation of information derived from genome technologies for crop and livestock improvement. The agency’s translational breeding research will increase agricultural productivity and resiliency by developing genetic resources and tools, and advanced molecular techniques. Specifically, ARS, with its governmental, university, and private sector partners/collaborators, will:

- Ensure that U.S. agricultural resources contribute to greater global food security through enhanced breeding methods and sustainable intensification of production.
- Accelerate performance gains through development of new breeds, lines, and strains with better climate adaptation, drought tolerance, disease resistance, nutritional value, enhanced production efficiencies, and reduced environmental impacts.
- Expand genotype and phenotype analysis of national germplasm collections and genetic stocks under diverse environments, and extend access to crop and animal breeders.
- Develop high performance cyber information and bioinformatic tools that support the integration of “big data” for accelerated translational breeding, genetic resource analysis, and genetic traits analysis.

Pollinator Health and Colony Collapse Disorder -- \$4 million

Bee pollination is responsible for more than \$15 billion in added crop value each year. Commercial production of many crops, such as almonds and other tree nuts, berries, fruits, and vegetables are dependent on pollination by honey bees. However, the economic viability of the bee pollination industry is currently threatened by Colony Collapse Disorder (CCD).

CCD is the general term for the large scale deaths of honey bees in the United States and Europe. CCD was first reported in October 2006, when beekeepers began reporting significant unexpected losses. Annual losses from the winter of 2006 through 2011 averaged about 33 percent, with a third of those losses attributed to CCD. The causes of CCD remain uncertain, though likely involve a combination of poor nutrition and loss of natural forage, parasites, stress from transportation, and pesticide exposures.

As part of a Government-wide initiative to the serious problem of pollinator losses, ARS' FY 2015 Budget requests an additional \$4 million to continue its research on identifying “best management practices” (BMPs), and test the efficacy of various sets of BMPs to

determine practices that can prevent CCD and reduce colony mortality to acceptable levels. With the proposed funding, ARS will also continue its partnerships with the European Food Safety Agency and COLOSS (a 35-nation consortium to prevent colony losses) to evaluate the impact of the European moratorium on certain neonicotinoid pesticide uses. These activities will be undertaken in coordination with other USDA and Environmental Protection Agency partners, National Institute of Food and Agriculture's planned Innovation Institute, and private sector partners.

Proposed Pay Costs (\$7.1 million)

In its FY 2015 Budget, ARS is requesting \$7,120,000 for employee pay costs. This represents a one percent annual increase which is critical for recruiting and retaining top level scientists and staff, conducting viable research programs, and carrying out ARS' mission.

Decentralized GSA Rental and DHS Security Payments (\$4.7 million)

The President's FY 2015 Budget proposes the elimination of the central account that funds rental and security payments to the GSA and the DHS. Requests to fund these costs are now proposed within individual agency budgets. As such, \$4,670,000 is included in ARS' budget request for GSA rental and DHS security costs. This change will improve oversight and identification of future savings within the agency's rental portfolio.

Proposed Research Program Reductions and Reallocations (\$103.8 million)

ARS' FY 2015 Budget includes \$103,769,000 in research program reductions and reallocations. More than two-thirds of the proposed decrease will be reallocated from ongoing research programs and redirected to finance and offset the research initiatives, pay costs, and GSA rental/DHS security payments proposed in the FY 2015 Budget. In addition, to strengthen the agency's program priorities, ARS is proposing to consolidate

in FY 2015 the resources from six of its laboratories with other existing agency laboratories and locations.

OGS Initiative

The President's FY 2015 Budget request includes a separate Opportunity, Growth, and Security (OGS) Initiative that will be offset with spending reductions and tax reforms. If enacted, the OGS Initiative would provide additional ARS funding for: replacement/modernization of its Biocontainment Laboratory and Consolidated Poultry Research Facility in Athens, Georgia (\$155,000,000); Integrated Research for Land, Crop, Grazing, and Livestock Production Systems (\$11,000,000); Advanced Crop and Livestock Genetic Improvements and Translational Breeding for Enhanced Food Production (\$11,100,000); Expansion of Research Capacity in Earth Sciences (\$2,500,000); Food Safety Alternatives to Antibiotics (\$2,620,000); and other research priorities (\$15,000,000), for a total of \$197,220,000.

Closing

Millions of people in the world are alive today because of agricultural advances that have boosted yields. Yet despite these advances, more than one billion people remain undernourished. Food security for them remains a major challenge.

Much more research is needed if we are going to successfully address the enormous challenges of sustainably boosting food production in the face of changing climates and massive population growth in the developing world. Production growth is currently constrained by climate changes, and water, land, and resource availability. At the same time, agriculture needs to become more environmentally friendly to ensure its own sustainability.

In its FY 2015 Budget, ARS proposes two new crosscutting, multidisciplinary research initiatives: Climate Resilient Land, Crop, Grazing, and Livestock Production Systems;

and Advanced Crop and Livestock Genetic Improvements and Translational Breeding for Enhanced Food Production. These initiatives address the challenges of increasing agricultural food production to meet global needs while addressing demands for greater sustainability. In carrying out these initiatives, ARS will forge extensive, new partnerships and networks with other governmental agencies, universities, and private industry.

Mr. Chairman, this concludes my statement of ARS' Budget recommendations for FY 2015. I will be happy to answer any questions that the Subcommittee may have.