

AGRICULTURAL RESEARCH SERVICE

**Statement of Dr. Edward B. Knipling, Acting Administrator
before the Subcommittee on Agriculture, Rural Development,
Food and Drug Administration, and Related Agencies
March 10, 2004**

Mr. Chairman, and members of the Subcommittee, I appreciate this opportunity to present the Agricultural Research Service's (ARS) budget recommendations for fiscal year (FY) 2005. The President's FY 2005 budget request for ARS is \$1.166 billion. This represents a net increase of \$20 million from the FY 2004 funding level. Within that total, there is a net reduction of \$95 million for research projects and a net increase of \$115 million for buildings and facilities. The FY 2005 budget includes increases for new and expanded program initiatives and pay and operational costs. The FY 2005 budget also proposes \$178 million to finance the completion of the building and modernization of USDA's National Centers for Animal Health in Ames, Iowa.

The proposed initiatives include research to maintain a viable U.S. food and fiber system and strengthen the Nation's Food and Agriculture Defense in the fight against terrorism. The budget proposes an increase of \$23.4 million in support of the Food and Agriculture Defense Initiative for research in food safety, and exotic and emerging diseases of animals and plants, and initiates a National Plant Disease Recovery System. The

President's budget also includes increased funding of \$34.7 million for: animal and plant genomics; genetic resources; invasive species affecting livestock and crops; obesity prevention; climate change; information technology cyber security; and a National Digital Library for Agriculture.

Proposed Program Initiatives

- Food Safety (\$14,375,000). ARS research will assist other Federal agencies in providing the technical means to ensure that our food supply is safe for American consumers. Research will focus on the reduction of hazards, both introduced and naturally occurring toxicants in food and feed, including pathogenic bacteria, viruses and parasites, chemical contaminants, mycotoxins produced by fungi growing on plants, and naturally occurring toxins produced by plants. ARS will work with other USDA/Federal agencies to implement a comprehensive Food and Agriculture Defense Initiative.
- Exotic and Emerging Diseases of Animals and Plants (\$10,722,000). The globalization of trade, increased international travel of people and movement of goods, changing weather patterns, genetic shifts in pathogen populations, and changes in crop management practices and animal management systems all provide opportunities for the emergence or reemergence and spread of animal and plant diseases. Porcine Reproductive Respiratory Syndrome (PRRS) in swine and virulent forms of Marek's Disease virus in chickens are two examples of diseases that have suddenly emerged. West Nile Virus and Monkey Pox are examples of exotic

diseases which have been introduced from other countries. The methods for detecting, preventing, and suppressing animal and plant diseases, whether emergent, exotic, or intentionally introduced, are similar. ARS will use the proposed increase to develop vaccines for high priority threats, such as Foot and Mouth Disease, West Nile Virus, Rift Valley Fever, and Equine Encephalopathy, that could devastate the Nation's livestock. In addition, flexible and responsive surveillance systems that maximize rapid detection, and better methods to prevent and control plant and animal pathogens will be developed and tested. Of the proposed \$10.722 million increase, \$7.7 million will finance part of USDA's Homeland Security efforts.

- Genomics (\$12,000,000). Genetic improvements have been largely responsible for the productivity and quality of America's crops and livestock. Additional research is now needed to exploit the inherent potential in genomes. With the proposed increase, ARS will identify and characterize genes that influence important traits in plants (e.g., plant growth, disease resistance, and stress tolerance) and in animals (e.g., reproduction, feed efficiency, and well-being). ARS will also characterize available germplasm for traits of economic and behavioral importance in cattle, swine, and poultry (e.g., Marek's Disease Virus in poultry).
- Genetic Resources (4,000,000). The prosperity of U.S. agriculture depends on the preservation of plant and animal germplasm collections. The current support of the germplasm program is inadequate to maintain animal and plant germplasm that is threatened or to prevent the loss of genetic diversity. With the availability of new genomic tools, genetic diversity is extremely valuable for improving plant and

animal productivity and other important traits. ARS will use the proposed increase to collect, catalog, and preserve selected germplasm of cattle, swine, poultry, and fish. Also, it will collect, identify, characterize, and incorporate plant germplasm into centralized genebanks, and evaluate it for useful qualities (e.g., disease resistance). In addition, official insect and microbial germplasm repositories will be established.

- National Plant Disease Recovery System (\$6,000,000). In case of a national emergency involving a disease outbreak in a major economically important crop, a National Plant Disease Recovery System will provide the infrastructure and technology for recovery. With the proposed increase, ARS will establish and coordinate a network of the technology capabilities within Federal, State, and private sector organizations to prevent, slow, or stop the spread of a high consequence pathogen with resistant seed varieties and other pest control measures. This network will utilize the genetic resources contained in the U.S. National Plant Germplasm System which is administered by ARS. The proposed increase will also be used to identify and develop new sources of genetic resistance in crops to important disease pathogens.
- Invasive Species Affecting Animals and Plants (\$5,000,000). Invasive weeds, insects, and other pests cost the Nation over \$137 billion per year. Weeds, including leafy spurge, melaleuca, salt cedar, water hyacinth, purple loosestrife, and jointed goat grass, infest over 100 million acres in the U.S. They reduce crop yields by

approximately 12 percent and forage yields by 20 percent. The red invasive fire ant, whose venom can kill young animals, has steadily spread through all the Gulf States and is now reported in Southern California and New Mexico. The southern cattle tick and the disease it causes, once eradicated from the Nation, may reinvade the U.S. from Northern Mexico. The tick has become increasingly resistant to insecticides and there is no vaccine for the disease it carries. With the proposed increase, ARS will target its research on the southern cattle tick (by identifying the genes responsible for pesticide resistance) and the fire ant (by studying its genomics and developing more effective pesticides and pathogens). In addition, ARS will develop systematics for weeds and arthropods, and develop biologically-based integrated pest management components for pests.

- Obesity Prevention (\$5,000,000). Obesity is the Nation's fastest growing public health problem, which is affecting every segment of the American population. Obesity contributes to many diseases, such as heart disease, cancer, and diabetes, resulting in hundreds of thousands of deaths, as well as hundreds of billions of dollars in health care costs each year. The deterioration of American dietary habits has occurred with the increased consumption of low cost, convenient, fast foods that are typically nutrient diluted. ARS will use the proposed increase to assess the benefits from long-term consumption of self-selected "healthy" diets to prevent obesity. Also, ARS will develop and evaluate culturally relevant behavioral strategies that promote the selection of healthy foods.

- Climate Change (\$5,189,000). Climate change encompasses global and regional changes in the earth's atmospheric, hydrological, and biological systems. Agriculture is vulnerable to these environmental changes. The objective of ARS' global change research is to develop the information and tools necessary for agriculture to mitigate or adapt to climate change. ARS has research programs on carbon cycle/storage, trace gases (methane and nitrous oxide), agricultural ecosystem impacts, and weather/water cycle changes. ARS will use the proposed increase to develop climate change mitigation technologies and practices for the agricultural sector. Specifically, ARS will: conduct interdisciplinary research leading to technologies and practices for sustaining or enhancing food and fiber production and carbon sequestration by agricultural systems exposed to multiple environmental and management conditions; expand the existing network of ARS sites conducting measurements of greenhouse gas fluxes between the atmosphere and the land; and identify ways to decrease methane emissions associated with livestock.
- National Digital Library for Agriculture (\$2,000,000). ARS will use the proposed increase to enhance the National Agricultural Library's (NAL) ability to offer integrated services for assessing, managing, and preserving agricultural information through the application of advanced network technologies. The volume, quality, and timeliness of information available to NAL's customers will be increased. In 2001, a "Blue Ribbon Panel" concluded that NAL needed increased resources to take advantage of technological innovations.

- Information Technology Cyber Security (\$1,507,000). Information technology is critical for the delivery of ARS' research programs. The use of web-based technology commonly referred to as "e-Government," offers ARS the opportunity to improve the way it conducts business and exchanges information in achieving its research mission and objectives. As technology has enhanced the ability to share information instantaneously, it has also made ARS more vulnerable to cyber security attacks. ARS' mission critical information systems and networks are increasingly exposed to an unprecedented level of risk. Of particular importance is the safety of pathogenic, genomic, and other sensitive research information from being acquired or destroyed by unauthorized intruders through unprotected or undetected cyber links. ARS will use the proposed increase to increase the number of cyber security officers, and to implement cyber security management plans and strategies.

Proposed Operating Increases

In addition to the proposed program initiatives, ARS' budget provides funding to cover costs associated with pay raises and employee performance. These funds, \$13,188,000 for pay costs and \$1,013,000 for employee performance, are critically needed to avoid erosion of the agency's base resources. Absorption of these costs would reduce the number of scientists and staff who are essential for conducting viable research programs critical to the Nation's security.

Proposed Program Decreases

The President's budget for FY 2005 addresses a number of national needs and priorities. Protecting the Nation's food and agricultural systems against terrorist attacks is a major concern. In order to finance these high priority initiatives related to Homeland Security and the Food and Agriculture Defense Initiative, the funding for important but lesser priority research must be reduced. Growing Federal deficits also dictate the need to generate savings by termination of unrequested research projects.

The FY 2005 budget proposes \$169,472,000 in program reductions. This entire amount represents unrequested research projects added in fiscal years 2001, 2002, 2003 and 2004. The savings achieved will be redirected to finance the higher priority research initiatives related to Homeland Security and the Food and Agriculture Defense Initiative, and to reduce overall Federal spending.

Proposed Increase for Buildings and Facilities

The FY 2005 budget recommends \$178,000,000 for the ARS Buildings and Facilities account. In accordance with a previously documented and accepted master plan, the entire amount will be used to complete the modernization of the National Centers for Animal Health in Ames, Iowa. This \$460 million construction project is already well underway. The program of work being carried out in the current inadequate facilities is internationally recognized for preventing and controlling animal diseases, and protecting

the Nation's food supply and public health. The new facility is critical to supporting and sustaining the Administration's Homeland Security and Food and Agriculture Defense Initiative.

The new facility combines ARS' National Animal Disease Center with two Animal and Plant Health Inspection Service facilities: the National Veterinary Services Laboratory and the Center for Veterinary Biologics. The new facility will provide an integrated, multidisciplinary scientific capability, combining animal disease research with the development of diagnostic tools and vaccines.

Mr. Chairman, this concludes my statement. I will be happy to respond to any questions the Committee may have.