

R&D in the Department of Agriculture

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HIGHLIGHTS

- National Research Initiative (NRI): The FY 2004 budget proposes \$200 million—up \$34 million from FY 2003 (see Table II-13).
- Agricultural Genomics: \$10 million increase over the current level.
- Climate Change Science Program: \$73 million for USDA's role in the multi-agency climate change research initiative (see Table I-10).
- Homeland Security: Some USDA programs transfer to the new Department of Homeland Security, \$47 million for homeland-security related R&D in USDA.
- Healthy Forests Initiative: Forest Service would perform research related to a multi-agency plan to combat forest fires.

BUDGET OVERVIEW

The request for the U.S. Department of Agriculture's (USDA) total FY 2004 budget is \$74 billion, which is a two percent increase over the FY 2003 request. The request for research and development (R&D) equals \$1.9 billion, which represents a 10.3 percent decrease from the final FY 2003 estimate of \$2.2 billion (see Table II-13). The decrease reflects, in part, movement of some homeland security research dollars from USDA to the new Department of Homeland Security (see Chapter 12 and Table

II-20); non-inclusion of congressional earmarks for Special Research Grants in the Cooperative State Research, Extension, and Education Service (CSREES); as well as a decrease in funding for buildings and facilities in the Agricultural Research Service (ARS). When the budget is looked at without these elements, there are some significant requests for the National Research Initiative (NRI) and animal and plant genomics, as well as other continuing research programs. Increases are also requested for the Economic Research Service (ERS) and for forest and rangeland research (see details below). For a complete discussion on USDA priorities, see the recently released policy book *Food and Agricultural Policy: Taking Stock for a New Century*, and USDA's five-year strategic plan, both available at www.usda.gov.

USDA INITIATIVES

National Research Initiative (NRI): As USDA's primary competitive research grants program, the NRI funds basic and mission-linked research. The Administration's FY 2004 budget proposes a funding level of \$200 million. This request level is down from the request made in the FY 2003 proposal (\$240 million) but reflects an increase over the estimated FY 2003 funding level of \$166 million. The NRI was funded at \$150 million in FY 2002. While not at the level of funding enjoyed by the National Institutes of Health (NIH) and the National Science Foundation (NSF), the Administration's proposal does indicate a continued commitment to a meaningful competitive research program within USDA. Built within the NRI is also the ability to develop multi-disciplinary, multi-agency collaborations in areas of mutual interest. For example, it is a mechanism whereby USDA's Cooperative State Research, Education and Extension Service (CSREES) and Agricultural Research Service (ARS) can partner with other federal research agencies to develop collaborative research efforts in genomics. In the NRI, genomics research would receive a \$10 million increase over the current funding level. (For additional coverage of the NRI, please see Chapter 5.)

Agricultural Genomics: Partnering with other federal agencies such as the National Institutes of Health (NIH) and the National Science Foundation (NSF), USDA – through its member agencies CSREES and ARS – is committed to contributing to the growing body of knowledge in genomics. Animal and plant genomics are not yet as advanced as human and medical genomics but have much to contribute to those arenas of research as well as their own. Besides contributing to human and medical

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genomics, agricultural genomics efforts will increase the ability to genetically improve agriculturally important animals and plants. Research will lead to a greater understanding of global environmental changes, preserving genetic diversity of wild stock, addressing new and emerging disease and pest threats, and providing new and renewable products to meet consumer needs. Requests for research and development dollars are embedded in the requests for CSREES, the ERS, and ARS.

Homeland Security: The Administration's overall request for homeland security programs in USDA is \$47 million. These programs would include funding to strengthen laboratory security, conduct research on emerging animal diseases, develop new vaccines, create new bio-security database systems, and continue development of the unified Federal-State Diagnostic Network for identifying and responding to high-risk pathogens. Some research conducted by ARS on Foot and Mouth Disease, African Swine Fever, and other exotic animal diseases has been moved to the new Department of Homeland Security (DHS). A line of funding is proposed for CSREES at a level of \$16 million. This funding would be used to support the unified Federal-State Diagnostic Network, a network of public agricultural institutions that identify and respond to high biological pathogens in the food and agricultural system. The network is made up of 12 animal diagnostic laboratories and 5 plant diagnostic laboratories. This network was established through the cooperative efforts of CSREES and the Animal and Plant Health Inspection Service (APHIS). In ARS, an increase of \$8 million in would be added to the development efforts of more sensitive and rapid on-site diagnostic tests, vaccines, and work on emerging diseases of poultry and swine. (For more on the DHS, see Chapter 12.)

Healthy Forests Initiative: In August 2002, President Bush proposed a Healthy Forests Initiative that would join the USDA Forest Service, the U.S. Department of the Interior, and the White House Council on Environmental Quality in an effort "to restore [forest and rangeland] ecosystems to healthy, natural conditions and assist in executing core components of the National Fire Plan." This initiative was developed as a response to the devastating fires of summer 2002, the second-worst fire season on record. A 10-year comprehensive plan is proposed that would strengthen the ability of land managers to reduce the accumulation of hazardous fuels and restore wildfire-damaged areas. The Forest Service,

through its Forest and Rangeland Research programs, would receive a \$3 million increase to support the efforts of this initiative.

Climate Change Science Program: USDA has partnered with various government agencies – such as NSF, the Environmental Protection Agency (EPA), and the Departments of Energy, Commerce, and the Interior – to address the issue of climate change as part of the U.S. Global Change Research Program (USGCRP), now the Climate Change Science Program. Overall, the Administration is requesting that \$1.75 billion be provided in the FY 2004 budget to support climate change science research that addresses critical gaps of understanding the global climate system (see Table I-10 for details). USDA's portion of this funding would be \$73 million, a \$7 million increase over requested funding for FY 2003. (For complete information on the Climate Change Science Program, please see Chapter 16),

USDA AGENCIES

Agricultural Research Service (ARS): With over 100 research locations throughout the United States and the world, the Agricultural Research Service (ARS) is the principal in-house research agency in USDA in the area of natural and biological sciences.

The FY 2004 budget proposes \$1 billion for R&D programs in ARS. This is down from the final FY 2003 estimate of \$1.2 billion (see Table II-13). Decreases would result mostly from significantly smaller requests for buildings and facilities and moving some activity to the new DHS. However, within the principal research categories of ARS, funding would remain basically level with modest increases in some categories: (1) Soil, Water, and Air Sciences would be at a level of \$102 million; (2) Plant Sciences would be at a level of \$355 million, an increase of \$9 million with \$3.5 million going towards plant/crop genomics; (3) Animal Sciences would be \$191 million, up by \$14 million with increases of \$3.5 million for animal genomics and \$8.3 million for emerging diseases and biosecurity; (4) Commodity Conversion and Delivery would be at a level of \$180 million; and (5) Human Nutrition would be at a level of \$77 million.

Cooperative State Research, Education, and Extension Service (CSREES): The Cooperative State Research, Education, and Extension Service (CSREES) serves as the base for the federal-state partnership of

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agricultural research, education, and extension. Partners of CSREES include the State Agricultural Experiment Stations, State Cooperative Extension Systems located at land-grant universities, colleges, and other research and education institutions. CSREES also administers the National Research Initiative (NRI). Along with ARS, CSREES activities represent the major research efforts of USDA.

Level funding is proposed for the Hatch Act for the Agricultural Experiment Stations at \$180 million; Cooperative Forestry research at \$22 million; 1890 colleges at \$36 million; and Animal Health at \$5 million. New funding is proposed for homeland security activities at a level of \$16 million (see details above). Funding for Pest Control/Management activities would dip slightly from the FY 2003 estimate of \$26 million to \$24 million. Funding for Sustainable Agriculture Research and Extension activities would remain level at \$13 million. Funding would remain level for such programs as Water Quality (\$13 million) and Food Safety (\$15 million).

In FY 2003, Special Research Grants were funded at a level of \$113 million. The FY 2004 budget requests only \$23 million, reflecting only the Administration's priorities and not including any congressional priorities. This category of funding will be significantly different once the congressional appropriations process for FY 2004 is completed.

Forest Service (FS): The Forest Service is one of the world's largest forest research organizations. Its mission is to "develop the knowledge and technology needed to enhance the economic and environmental values of all the Nation's Forests and related industries [and] support the specific research needs that arise from...managing the [National Forest System]." The FY 2004 budget proposes a level of \$252 million for forest and rangeland research. This would include budget increases of \$2.5 million for Sudden Oak Death; \$2 million for bio-based products; \$4.1 million for invasive species; and a \$3 million increase for basic and applied fire research and other research efforts to support the Healthy Forests Initiative (see details above).

Economic Research Service (ERS): The Economic Research Service "provides economic analysis on agriculture, food, natural resources, and rural development." The new request would raise the funding level of ERS to \$77 million, an increase of \$8 million from FY 2003. This would include new funding for a Genomics Initiative at a level of \$1.1 million

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and would allow ERS to investigate consumer behavior towards food modified by genomic and other agricultural biotechnology innovations. Another \$1 million would provide resources for continuing the development, delivery, and maintenance of the SAS-USA, a decision-support system designed to improve USDA's ability to mitigate security threats and attacks to the nation's agriculture and food supply. (For more on ERS, please see Chapter 22.)