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R&D in the Department of Agriculture

Elizabeth Allred and Mortimer Neufville, NASULGC

HIGHLIGHTS

- National Research Initiative—Funding would increase to $150 million, an increase of $31 million from the FY 2000 level of $119 million.

- Initiative for Future Agriculture and Food Systems—The FY 2001 budget assumes that $120 million would be available, the same amount as in FY 2000.

- Food Safety Initiative—A total of $164 million is requested in FY 2001 for food safety activities, an increase of $29 million. Funding would be spread across eight USDA agencies and would include $88 million in the Agricultural Research Service (ARS) and $36 million in the Cooperative State Research, Education, and Extension Service (CSREES).

- Biobased Products/Bioenergy Initiative—The President's budget proposes a total of $268 million, an increase of $96 million. Research and development activities would be housed in the ARS, CSREES, and the Forest Service.

- Invasive Species—Research efforts for this initiative are spread throughout the various research agencies of the department. The FY 2001 budget requests a total funding level of $561 million, which would include $78 million in ARS and $14 million in CSREES, including $1.5 million for a competitive grants program.

- Food Quality Protection Act—The FY 2001 budget proposal requests $108 million to fund research, technology transfer, and

pesticide data programs, representing a $25 million or 30 percent increase over FY 2000.

- Clean Water Action Plan—A total of $1 billion is proposed in FY 2001 for all department activities, an increase of $284 million. While most activities are not research related, included in the total would be $5 million for ARS to conduct research on hypoxia, harmful algal blooms, and related problems.

BUDGET OVERVIEW

The President's budget proposal for FY 2001 requests an overall funding level of $100.2 billion for the U.S. Department of Agriculture (USDA). The current estimate for FY 2000 is $105.4 billion. This difference in total funding does not represent a decrease in the funding request for USDA but reflects emergency spending for natural and economic disasters during FY 2000. Of the total funding proposed for FY 2001, $1.8 billion would be targeted for R&D, representing a 3.5 percent increase over FY 2000 (see Table II-13 for details of USDA R&D).

Funding for USDA's R&D programs routinely cuts across agency lines, often mingling with the department's other programs and services including education and extension. Funding for USDA's in-house research agency, Agricultural Research Service (ARS), usually remains within the walls of that agency. However, it is not at all uncommon for the research and development activities in the Cooperative State Research, Education, and Extension Service (CSREES) to be closely linked to its education and extension activities.

USDA INITIATIVES

National Research Initiative (NRI): USDA's primary competitive research grants program, the NRI funds basic and mission-linked research. Areas of emphasis include genetics, biobased products and value-added commodities, food safety, human nutrition, and pest and disease management. A funding level of $150 million is proposed for FY 2001, a $31 million increase over the FY 2000 level of $119 million. In past years, the Administration has requested funding levels up to $200 million. However, since the establishment of the NRI, Congress has yet

to boost funding in any significant fashion. The FY 2000 funding level of $119 million represents the high mark for the program.

Initiative for Future Agriculture and Food Systems (IFAFS): The FY2001 budget assumes that $120 million would be available for IFAFS. Mandated in Section 401 of the Agricultural Research, Education, and Reform Act of 1998, IFAFS was established as a competitive grants program in CSREES for five years with a funding level of $120 million per year. Money for this program, being mandatory, has bypassed the regular appropriations process. Funds were not awarded in FY 1999, however, because Congress did not react favorably to the mandated funding. However, the FY 1999 funds became available in FY 2000 and Requests for Proposals (RFPs) have been published in the *Federal Register*. Barring any future problems, $120 million will also be available in FY 2001. Competition for grant funding is open to a variety of competitors: federal research agencies, national laboratories, colleges, universities, research foundations, and private organizations. Set-aside funds will also be available to small and mid-size institutions. IFAFS integrates research, education, and extension activities and targets several priority areas: agricultural genomics; agricultural biotechnology; food safety; food technologies; human nutrition; new uses for agricultural products; natural resource management, including precision agriculture; and farm efficiency and profitability.

Food Safety Initiative: Continuing its emphasis on food safety, the Administration is proposing a total funding level of $164 million for FY 2001, an increase of $29 million. Of the total, $125 million would be used for research activities: (1) $88 million to ARS for research to detect and identify pathogens; and (2) $36 million to CSREES.

Biobased Products/Bioenergy Initiative: The President wants to triple the use of biobased products and bioenergy by 2010 and requests a total of $268 million for this initiative. Funding for research would approach $100 million, divided among ARS ($63 million), CSREES ($19 million), and the Forest Service ($19 million). Research efforts would focus on transforming biomass into energy and exchanging technology transfer activities; developing new biobased materials, such as lubricants, adhesives, and building materials; developing new crops for value-added products; increasing knowledge of fundamental biomaterials sciences;

and improving conversion of agricultural materials into biofuels. USDA is collaborating with the Department of Energy on this initiative.

Invasive Species: With the goal of preventing the introduction of exotic plant pests and animals diseases into the United States and managing established species, the FY 2001 budget proposes a total funding level of $561 million for this program. While the bulk of funding ($434 million) would go to the Animal and Plant Health Inspection Service (APHIS), research efforts would include: (1) $78 million for ARS to support identification of weeds and insects, integrate weed management systems, and do research on biocontrol of weeds and insects; and (2) $1.5 million in CSREES to fund a competitive grants program.

Food Quality Protection Act: A collaborative effort between USDA and the Environmental Protection Agency (EPA), with EPA as the lead agency, the Food Quality Protection Act was enacted in 1996 and seeks to establish stricter safety standards for pesticide registration, particularly for pesticides used on foods consumed by infants and children. The FY 2001 budget proposal requests $108 million to fund research, technology transfer, and pesticide data programs, representing a $25 million or 30 percent increase.

Clean Water Action Plan: A total of $1 billion is proposed for this program in FY 2001. Most of the funding would be used for conservation and management activities. However, funding for research activities would include $5 million for ARS to conduct research on hypoxia, harmful algal blooms, and related problems.

U.S. Global Change Research Program (USGCRP): A funding level of $85 million is proposed for USDA's part in the USGCRP, an increase of $32 million. Funding would support research "to understand the human and natural forces that influence the earth's climate and understand the consequences of climatic change." Specific efforts would include $56 million for ARS ($36 million) and the Forest Service ($20 million) "to study the role of agriculture and forests in the carbon balance and examine ways to increase carbon storage in soils and forests." Also, $14 million would be made available to NRI in CSREES. (Please see Table I-10 and Chapter 17 for more information.)

Climate Change Technology Initiative: The FY 2001 budget proposes a funding level of $24 million, including funding for ARS ($8 million) and the Forest Service ($13 million). Specific efforts would include research on forest and rangeland carbon sequestration and converting biomass to energy. (Please see Chapter 17 for more information.)

USDA AGENCIES

Agricultural Research Service (ARS): With 105 research locations throughout the world, ARS is USDA's principal in-house research agency in the area of natural and biological sciences. The FY 2001 request is $956 million, a $50 million increase over the FY 2000 level of $906 million (see Table II-13). Of this, $894 million would be directly targeted to research in the following areas: soil, water, and air sciences; plant science; animal science; commodity conversion and delivery; human nutrition; and integration of agricultural systems.

Cooperative State Research, Education, and Extension Service (CSREES): CSREES serves as the base for the federal-state partnership of agricultural research, education, and extension. Partners of CSREES include the State Agricultural Experiment Stations, State Cooperative Extension Systems, land-grant universities, colleges, and other research and education institutions. CSREES also administers the National Research Initiative (NRI). The FY 2001 budget proposes a total funding level of $1.1 billion for CSREES and includes the education and extension activities of the agency.

Within the total request, funding for the research formula funds would remain at the same level as in FY 2000: $181 million for the Hatch Act (State Agricultural Experiment Stations), $58 million for 1890 Research and Extension, $22 million for Cooperative Forestry, and $5 million for Animal Health. These funds are distributed to the nation's land-grant institutions and are used to support ongoing research activities that are important to the individual states and territories. NRI would be funded at a level of $150 million, an increase of $31 million. Pest Control and Management efforts would be funded at a level of $56 million, an increase of $19 million over the FY 2000 level. Sustainable Agriculture Research and Extension would be funded at a level of $15 million, an

increase of $4 million. The 1994 Institutions Research Program would remain level for FY 2001 at $1 million.

Economic Research Service (ERS): ERS "provides economic analysis on efficiency, efficacy, and equity issues related to agriculture, food, natural resources, and rural development to improve public and private decision making." The FY 2001 budget proposes that ERS, USDA's principal intramural social science research agency, be funded at a level of $55 million; the current estimate for FY 2000 is $65 million. The budget request reflects a net $10 million decrease: (1) a $12.2 million cut for food program studies that would be transferred to the Food and Nutrition Service; and (2) a $2.2 million increase for Structural Change, Coordination, and Concentration in Food and Agriculture ($1 million); Global Climate Change ($0.7 million); and Global Research, Statistics, and Outreach ($0.5 million).

National Agricultural Statistics Service (NASS): The President's budget requests $101 million for NASS in FY 2001, an increase from the current FY 2000 estimate of $99 million. NASS "provides the basic information necessary to keep agricultural markets stable and efficient and help maintain a level playing field for all users of agricultural statistics." Its mission is "to meet the basic agricultural and rural data needs of the people of the United States."

Forest Service (FS): The U.S. 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 to support the specific research needs that arise from... managing the [National Forest System]." The FY 2001 budget proposes a funding level of $231 million for Forest and Rangeland Research, a $13 million increase from the FY 2000 level of $218 million. A $3 million increase is requested for carbon cycle research as part of the Global Change Research Program, $3 million for the Climate Change Technology Initiative for carbon sequestration, $1 million for Partnership for Advanced Technology in Housing (PATH), $9.5 million for the Biobased Products/Bioenergy Initiative for research on faster-growing trees and the use of small-diameter trees for commercial biobased products, and $8.6 million for research related to invasive species.