



CRS Report for Congress

Agricultural Research, Education, and Extension in the 2007 Farm Bill

Jean M. Rawson
Specialist in Agriculture Policy
Resources, Science, and Industry Division

Summary

Congress is currently considering a new multi-year farm bill to govern U.S. Department of Agriculture (USDA) research programs. The Administration, the land grant university system, and a congressionally authorized task force earlier put forth proposals to make major changes to the management structure. The 2007 House farm bill (H.R. 2419) and the Senate Agriculture Committee-approved farm bill reflect various aspects of these proposals. Both would try to achieve improved coordination across agencies, and both would create a National Institute for Food and Agriculture (NIFA). Substantial differences exist between the two proposals in the functions of NIFA and the levels of mandatory funds devoted to research. This report will be updated as the 2007 farm bill progresses.

Background

The U.S. Department of Agriculture (USDA) is responsible for conducting agricultural research at the federal level, and for providing partial support for cooperative research, extension, and post-secondary agricultural education programs in the states. This mission area of USDA is called Research, Extension, and Economics (REE). In addition to research in the biological sciences, the mission also includes substantial economic data collection and analysis.¹

The state partners are the colleges of agriculture at land grant universities in 50 states and eight U.S. territories, with their affiliated state agricultural experiment stations,

¹ Under the REE mission, the USDA is responsible for conducting agricultural research at the federal level, and for providing partial support for cooperative research, extension, and post-secondary agricultural education programs in the states. The USDA's intramural activities are carried out by the Agricultural Research Service (ARS), Economic Research Service (ERS), National Agricultural Statistics Service (NASS), and National Agriculture Library (NAL). The federally funded extramural activities are managed by the Cooperative State Research, Education, and Extension Service (CSREES).

schools of forestry and veterinary medicine, and cooperative extension.² There also are 18 historically black land grant colleges of agriculture (the 1890 institutions) and 31 Native American colleges that gained land grant status in 1994 (referred to as the tribal colleges). Small grant programs support agricultural education at Hispanic-serving institutions, and at Alaskan and Hawaiian native-serving institutions.

Key Issues. USDA differs from other federal research agencies in allocating the majority of its annual research appropriation directly to in-house research (ARS, ERS, and NASS). Most federal science agencies primarily fund extramural research through a competitive, peer-reviewed grant process. The National Academy of Sciences (NAS) has recommended for more than a decade that at least 35% of total USDA research money be distributed competitively. When the Academy first made its recommendation in 1989, it determined that less than 6% of USDA's research funding was competitively awarded. In FY2006 it was approximately 14%, according to CRS calculations.³

The primary and longest-standing mechanisms for distributing annual federal appropriations to the colleges of agriculture at the state land grant universities are contained in the Hatch Act of 1887 (for cooperative research) and Smith-Lever Act of 1914 (for extension activities).⁴ Formulas set forth in each of these acts determine how annual federal appropriations are divided among states. The majority of funding for state-level programs, however, comes from state appropriations, competitive grants from USDA and other federal agencies, and private industry. States are required to match Hatch and Smith-Lever formula funds; most states appropriate three to four times the federal allotment. Nonetheless, despite the fact that federal formula funds represent only a small percentage of total funding at the state level, they traditionally have been viewed by state research and extension directors as a very reliable source of support for their core programs.

Congress has set the policies and authorized the funding for USDA's research, education, and extension programs as part of omnibus farm bills since 1977. Permanent authority for most of the programs resides in older laws, but the authorization for appropriations for them expires at the end of FY2007 unless a new farm bill is enacted.

To address the challenges posed by the perceived need to increase competitive grants in agriculture, the major proposals for the research title propose significant changes in how ARS and CSREES are structured and administered.

² The term "land grant" refers to the law first establishing an institution of public higher education in each state to teach the "agricultural and mechanical arts." The Morrill Act of 1862 gave a grant of federal land to each state and directed the state to sell the land and use the proceeds to establish a college of agriculture. In many states, the original 1862 school became the foundation for the state university, growing to include a wide range of academic disciplines, including agriculture. These large institutions sometimes are referred to as land grant universities, but USDA funding and programs pertain only to the colleges of agriculture within them.

³ For more in-depth information on issues related to the structure and funding of the U.S. agricultural research and extension system, see CRS Report RL33327, *Agricultural Research, Education, and Extension: Issues and Background*.

⁴ 7 U.S.C. 361a et seq. and 7 U.S.C. 341 et seq., respectively.

Proposals for Change

Administration's Proposal. In the comprehensive farm bill proposal that USDA released in February 2007, the Administration proposed to rename the Research, Education, and Extension mission area the Office of Science, and to merge ARS and CSREES into a single agency conducting both intramural and extramural programs under the leadership of a Chief Scientist. The proposal called for the current formula-funded authorities to be retained. ERS and NASS would be the other two agencies also under the Office of Science. The Administration maintained that an integration of budgets and programs would provide more efficient and effective program implementation and resource allocation. In its call for a unified budget and a single scientific agency, this proposal mirrored some of the key aspects of the land grant system's CREATE-21 proposal (see below).⁵

2002 Farm Bill Task Force Proposal. In Section 7404 of the 2002 farm bill (P.L. 107-171), Congress commissioned a task force "to conduct a review and evaluation of the merits of establishing one or more National Institutes focused on disciplines important to the progress of food and agricultural sciences," among other things. The task force recommendations, released in July 2004, called for the formation of a National Institute for Food and Agriculture (NIFA) within USDA "to supplement and enhance, not replace, the existing research programs." The task force conceived of the NIFA as a separate entity solely for awarding competitive peer-reviewed grants, and called for an annual budget for the institute to build to \$1 billion over a five-year period.⁶

H.R. 2118 (C. Peterson)/S. 971 (Bond) reflect the task force recommendations. The companion bills would establish the NIFA and commission it to award an estimated 1,000 competitive grants annually in research areas to be determined by a director appointed by the President, in consultation with a Council of Advisors (to include stakeholders as well as scientists). The bills would provide mandatory funds for the NIFA starting at \$245 million in FY2008 and increasing to \$966 million by FY2012.

Land Grant Organization Proposal. Recommendations put forth by the National Association of State Universities and Land Grant Colleges (NASULGC) after a nationwide deliberative process within the land grant system are reflected in H.R. 2398 (Barrow)/S. 1094 (Stabenow). The key provisions would (1) put all of USDA's intramural and extramural research, education, and extension agencies (including the research arm of the Forest Service) under one administrative body, working with a unified budget; (2) provide \$200 million annually in mandatory funds and substantial annual increases in appropriated funds (to 171.5% of the current level of \$2.67 billion) in FY2012; and (3) provide opportunities for minority and smaller schools, both land grant and non-land grant, to expand their capacity for agricultural research, education, and

⁵ The full Administration proposal is available online at [<http://www.usda.gov/documents/07finalfbp.pdf>].

⁶ *National Institute for Food and Agriculture: A Proposal*, report of the Research, Education, and Economics Task Force of USDA, July 2004. The report is available online at [<http://www.ars.usda.gov/Research/Research.htm>].

extension. The NASULGC proposal, called CREATE-21, was widely but not unanimously endorsed by the colleges of agriculture at the land grant universities.⁷

Farm Bill Action

On July 27, 2007, the House passed H.R. 2419, the Farm, Nutrition, and Bioenergy Act of 2007, which includes Title VII, the research title. The Senate Agriculture Committee approved its farm bill (as yet unnumbered) on October 30, 2007, which includes research also as Title VII. Senate floor debate is anticipated to begin in November. Both the House-passed and the Senate Agriculture Committee-approved research provisions draw heavily on the recommendations of USDA and NASULGC.⁸

Research Management. The House version would create, within the Office of the Under Secretary for Research, Education, and Economics, an overall coordinating organization known as the National Agricultural Research Program Office (NARPO) with six specialized directors.⁹ NARPO's six subject-area directors would work with the existing National Agricultural Research, Extension, Education, and Economics Advisory Board to coordinate and plan both the capacity and competitive programs of the REE agencies. The directors of NARPO would become the primary program leaders, incorporating the duties of the currently separate ARS and CSREES national program staffs.

Additionally, the House would establish a National Institute of Food and Agriculture (NIFA) within CSREES that would oversee extramural competitive research grants only. NIFA would merge USDA's two major competitive grant programs — the National Research Initiative (NRI) and the Initiative for Future Agriculture and Food Systems (IFAFS).¹⁰ The NRI portion of the combined program would focus on fundamental, basic research, and receive 60% of the available funding. The IFAFS portion would focus on applied, integrated research, education, and extension projects, and receive 40% of the available funding. The title would reauthorize appropriations for the NRI at \$500 million annually through FY2012, and provide for the transfer of IFAFS's mandatory funding.¹¹

⁷ Both the NASULGC document and the legislative proposals are under the title "Creating Research, Extension, and Teaching Excellence for the 21st Century" or "CREATE-21" [<http://www.create-21.org/>].

⁸ CRS Report RL34288, *Comparison of the House and Senate 2007 Farm Bills*, presents a side-by-side tabular comparison of current law and the House and Senate bills, including the research titles.

⁹ NARPO would be composed of individual institutes for (1) renewable energy, natural resources, and environment; (2) food safety, nutrition, and health; (3) plant health and production; (4) animal health and production and animal products; (5) agriculture systems and technology; and (6) agriculture economics and rural communities.

¹⁰ IFAFS was authorized in a free-standing agricultural research law in 1998 (P.L. 105-185).

¹¹ The Deficit Reduction Act of 2007 (P.L. 109-171) cancelled the currently authorized annual \$200 million in mandatory funds for IFAFS in FY2007 through FY2009. Funding for the program would resume in FY2010 at \$200 million annually unless Congress changes it in the 2007 farm bill.

The Senate Agriculture Committee version explicitly designates the Under Secretary as the coordinator of research between ARS and NIFA. In this bill, NIFA would report directly to the Secretary of Agriculture (not through the Under Secretary). NIFA would replace CSREES to plan, coordinate, and manage all extramural USDA research, education, and extension funds (competitive grants, capacity-building grants, and formula funds).

Funding. The House bill, in support of a more centralized administration of the agencies, calls for the President to submit a unified annual budget reflecting the total amount requested for each of two categories of mission area programs. The first category, called capacity-building programs, would include all of the formula-funded programs, support for research at the tribal colleges, the 1890 colleges, and other selected programs. The second budget category, called competitive programs (administered by the new NIFA), would reflect the total amount requested for all programs that distribute funds through peer-reviewed, competitive processes.

The House bill provides a substantial amount of mandatory research funding, totaling \$865 million over the five-year life of the farm bill. A new Organic Research and Extension Initiative would receive \$25 million in total mandatory funds for FY2008-FY2012 and \$25 million in annual appropriations authority for FY2009-FY2012. A new Specialty Crop Research Initiative would receive a total of \$215 million in mandatory funds in addition to annual appropriations authority of \$100 million for FY2008-FY2012. The effort to improve the safety of fresh cut produce would be provided an additional total of \$25 million in mandatory funds to supplement the annual appropriation. Also, the House bill preserves mandatory funding of \$200 million for IFAFS for FY2010-FY2012. Discretionary programs are maintained largely as in the previous farm bill and most are authorized to receive appropriations of such sums as necessary.

The Senate bill provides \$160 million in mandatory research funding over the five-year life of the farm. This bill would authorize a new Organic Research and Extension Initiative with \$16 million in annual mandatory funds for FY2008-FY2012. A new Specialty Crop Research Initiative would receive \$16 million in annual mandatory funds for FY2008-FY2012. Mandatory funds for the Initiative for Future Agricultural and Food Systems (IFAFS) are eliminated and replaced with annual appropriations of such sums as necessary. As with the House bill, discretionary programs are maintained largely as in the previous farm bill and most are authorized to receive appropriations of such sums as necessary.

Other new provisions in the both the House and Senate proposals include (1) a grant program to help non-land grant public colleges and universities improve their capacity for agricultural research, education, and outreach; (2) establishment of an endowment fund, similar to that established for the tribal colleges, to provide a continuing base of support for Hispanic-serving agricultural colleges; (3) establishment of institutional capacity-building and competitive grant programs for the Hispanic-serving colleges; and (4) a larger commitment to bioenergy and biobased products.