2015 Explanatory Notes
National Institute of Food and Agriculture

Contents

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Purpose Statement

Section 7511(f)(2) of the Food, Conservation, and Energy Act of 2008 amends the Department of Agriculture Reorganization Act of 1994 (7 U.S.C. 6971) by establishing an agency to be known as the National Institute of Food and Agriculture (NIFA). On October 1, 2009, all authorities administered by the Administrator of the Cooperative State Research, Education, and Extension Service were transferred to the Director of the National Institute of Food and Agriculture (NIFA). NIFA continues to advance knowledge for agriculture, the environment, human health and well-being, and communities.

Research and Education Activities

Research and Education programs administered by NIFA are the U.S. Department of Agriculture's principal entree to the university system of the United States for the purpose of conducting agricultural research and education programs as authorized by the Hatch Act of 1887, as amended (7 U.S.C. 361a-361i); the McIntire-Stennis Cooperative Forestry Act of 1962, as amended (16 U.S.C. 582a et seq.) (McIntire-Stennis Act); the Competitive, Special, and Facilities Research Grant Act, as amended (7 U.S.C. 450i) (the 1965 Act); the National Agricultural Research, Extension, and Teaching Policy Act of 1977, as amended (7 U.S.C. 3101 et seq.) (NARETPA); the Small Business Innovation Development Act of 1982 (Pub. L. 97-219, as amended (15 U.S.C. 638), Section 630 of the Act making appropriations for Agriculture, Rural Development and Related Agencies' programs for fiscal year ending September 30, 1987, and for other purposes, as made applicable by Section 101(a) of Pub. L. 99-591, 100 Stat. 3341, National Defense Authorization Act for Fiscal Year 2012 (Pub. L. 112-81); the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note) (the 1994 Act); the Agricultural Research, Extension, and Education Reform Act of 1998 (Pub. L. 105-185), as amended (AREERA); the Food, Agriculture, Conservation, and Trade Act of 1990 (Pub. L. 101-624) (FACT Act), the Farm Security and Rural Investment Act of 2002 (Pub. L. 107–171) (FSRIA), the Food, Conservation, and Energy Act of 2008 (Pub. L. 110-246) (FCEA), and the Agricultural Act of 2014 (2014 Farm Bill, Public Law 113-79). Through these authorities, the U.S. Department of Agriculture (USDA) participates with State and other cooperators to encourage and assist the State institutions in the conduct of agricultural research and education through the State Agricultural Experiment Stations (SAES) of the 50 States and the territories; by approved Schools of Forestry; the 1890 Land-Grant Institutions and Tuskegee University and West Virginia State University; 1994 Land-Grant Institutions; by Colleges of Veterinary Medicine; and other eligible institutions. The appropriated funds provide Federal support for research and education programs at these institutions.

The State institutions conduct research on the problems continuously encountered in the development of a permanent and sustainable agriculture and forestry system, and in the improvement of the economic and social welfare of rural and urban families. Because of differences in climate, soil, market outlets, and other local conditions, each State has distinct problems in the production and marketing of crops and livestock. Farmers, foresters, and rural people in the individual States naturally look to their SAES, universities, and colleges for solutions to the State and local problems and request services to help meet changing conditions.

The Department's higher education mission is carried out in strong alliance with States, universities, and the private sector. NARETPA designated USDA as the lead Federal agency for higher education in the food and agricultural sciences. Through NIFA, USDA has implemented that charge with a broad array of initiatives to link teaching, research, and extension; to improve the training of food and agricultural scientists and professionals; and to strengthen the quality of education programs throughout the nation.

Appropriations and additional provisions for research and education activities are authorized under the following Acts:

1. Hatch Act - Payments to agricultural experiment stations under the Hatch Act of 1887 as amended (7 U.S.C. 361a-361i), the Agricultural Experiment Stations Act of August 11, 1955 (Pub. L. 84-352); the Education Amendments of 1972 (Pub. L. 92-318); District of Columbia Public Postsecondary Education Reorganization Act (Pub. L. 93-471); NARETPA (Pub. L. 95-113), as amended; Omnibus Territories Act of October 15, 1977 (Pub. L. 95-134); Act of March 12, 1980 (Pub. L. 96-205); Education Amendments of 1980 (Pub. L. 96-374); Act of

December 24, 1980 (Pub. L. 96-597); Agriculture and Food Act of 1981 (Pub. L. 97-98); Act of December 8, 1983 (Pub. L. 98-213); Act of October 5, 1984 (Pub. L. 98-454); Food Security Act of 1985 (Pub. L. 99-198); Act of August 27, 1986 (Pub. L. 99-396); FACT Act; Federal Agriculture Improvement and Reform Act of 1996 (FAIR Act) (Pub. L. 104-127); AREERA; FSRIA; FCEA; and the 2014 Farm Bill.

Funds under the Hatch Act are allocated to the SAES of the 50 States, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, Micronesia, American Samoa, and the Northern Mariana Islands for research to promote sound and prosperous agriculture and rural life.

Eligible State institutions are required to submit a Plan of Work to NIFA for approval before Hatch Act funds are distributed. The Hatch Act provides that the distribution of Federal payments to States for fiscal year 1955 shall become a fixed base, and that any sums appropriated in excess of the 1955 level shall be distributed in the following manner:

-20 percent equally to each State;
-not less than 52 percent to the States as follows: one-half in an amount proportionate to the relative rural population of each State to the total rural population of all States, and one-half in an amount proportionate to the relative farm population of each State to the total farm population of all States;
-not less than 25 percent for multi-State, multi-disciplinary, multi-institutional research activities to solve problems concerning more than one State; and
- 3 percent for the administration of the Act.

Federal funds provided under the Hatch Act to State institutions must be matched with non-Federal funding on a dollar-for-dollar basis. Matching requirements for the insular areas of the Commonwealth of Puerto Rico, the Virgin Islands, Guam, Micronesia, American Samoa, the Northern Mariana Islands, and the District of Columbia are subject to the matching requirements of an amount equal to not less than 50 percent of the formula funds distributed to each insular area and the District of Columbia as stated in the Hatch Act, as amended by section 7404 of the FCEA. These provisions also state that the Secretary may waive the matching funds requirement of an insular area and the District of Columbia for any fiscal year if the Secretary determines that the government of the insular area or the District of Columbia will unlikely meet the matching requirement for the fiscal year.

Section 7(c) of the Hatch Act allows unexpended funds to be carried over for use during the following fiscal year. In accordance with provisions of AREERA, at least 25 percent of available Hatch Act funds must be used to support multi-State research; States also must expend 25 percent, or two times the level spent in fiscal year 1997 (whichever is less), on activities that integrate cooperative research and extension.

The three percent of funds appropriated under the Hatch Act for administration includes the disbursement of funds and a continuous review and evaluation of the research programs of the SAES supported wholly or in part from Hatch funds. NIFA encourages and assists in the establishment of cooperation within and between the States, and also actively participates in the planning and coordination of research programs between the States and the Department at the regional and national levels.

2. McIntire-Stennis Act - The McIntire-Stennis Cooperative Forestry Act of October 10, 1962, (16 U.S.C. 582a et seq.) as amended by Section 7412 of FCEA; and subject to provisions of Pub. L. 96-374; Pub. L. 97-98; Pub. L. 99-198; FACT Act; and FAIR Act.

The Act authorizes funding of research in State institutions certified by a State representative designated by the governor of each State. The Act provides that appropriated funds be apportioned among States as determined by the Secretary. The Secretary annually seeks the advice of the Forestry Research Advisory Council (Council) to accomplish efficiently the program purpose. The Council consists of not fewer than sixteen members representing Federal and State agencies concerned with developing and utilizing the Nation's forest resources, the forest industries, the forestry schools of the State-certified eligible institutions, SAES, and volunteer public groups concerned with forests and related natural resources. Determination of apportionments follows consideration of pertinent factors including areas of non-Federal commercial forest land, volume of timber cut from growing stock, and the non-Federal dollars expended on forestry research in the State. Section 7412 of FCEA amended the

McIntire-Stennis Act to include 1890 Institutions (as defined in section 2 of AREERA (7 U.S.C. 7601)) as eligible for consideration in these determinations. The Act also provides that payments must be matched by funds made available and budgeted from non-Federal sources by the certified institutions for expenditure on forestry research.

3. Payments to 1890 Colleges, including Tuskegee University and West Virginia State University - Section 1445 of NARETPA; Act of October 28, 1978, (Pub. L. 95-547); and subject to provisions of Pub. L. 97-98; Pub. L. 99-198; FACT Act; FAIR Act; AREERA; FSRIA, and FCEA authorizing support of continuing agricultural research at colleges eligible to receive funds under the Act of August 30, 1890, including Tuskegee University. The general provisions section 753 of Pub. L. 107-76 makes West Virginia State University eligible to receive funds under this program. Eligible State institutions are required to submit a Plan of Work to NIFA for approval before these formula funds are distributed. The agricultural research programs at the 1890 Land-Grant Colleges and Universities are designed to generate new knowledge which will assist rural underprivileged people and small farmers to obtain a higher standard of living. Therefore, there is a high concentration of research effort in the areas of small farms, sustainable agriculture, rural economic development, human nutrition, rural health, and youth and elderly. Congress authorized appropriations in an amount not less than 15 percent of the amounts appropriated each year under Section 3 of the Hatch Act. The Act allows 3 percent for administrative expenses by the Secretary. Distribution of payments made available under section 2 of the 1965 Act for fiscal year 1978 are a fixed base and sums in excess of the 1978 level are to be distributed as follows:

-20 percent equally to each State;
-40 percent in an amount proportionate to the rural population of the State in which the eligible institution is located to the total rural population of all States in which eligible institutions are located; and
-40 percent in an amount proportionate to the farm population of the State in which the eligible institution is located to the total farm population of all the States in which eligible institutions are located.

Section 1445(a)(2) of NARETPA (7 U.S.C. 3222(a)(2)), as amended by section 7122 of FCEA requires that funds appropriated for this program be not less than 30 percent of the Hatch Act appropriation. Section 1445(a) allows unexpended funds to be carried over for use during the following fiscal year. Section 1449 (7 U.S.C. 3222d), requires that Federal funds be matched by the State from non-Federal sources. For fiscal year 2007 and each fiscal year thereafter, not less than 100 percent of formula funds to be distributed must be matched. The Secretary of Agriculture may waive the matching funds requirement above the 50 percent level for any fiscal year for an eligible institution of a State if the Secretary determines the State will be unlikely to satisfy the matching requirement. Allotments to Tuskegee University and Alabama A&M University shall be determined as if each institution were in a separate State.

4. Animal Health and Disease Research - Section 1433 of NARETPA (7 U.S.C. 3195), provides for support of livestock and poultry disease research in accredited schools or colleges of veterinary medicine or SAES that conduct animal health and disease research. These funds provide support for new research initiatives and enhance research capacity leading to improved animal health, reduced use of antibacterial drugs and improved safety of foods of animal origin. These funds shall be distributed as follows:

-4 percent shall be retained by the Department of Agriculture for administration, program assistance to the eligible institutions, and program coordination;
-48 percent shall be distributed in an amount proportionate to the value of and income to producers from domestic livestock and poultry in each State to the total value of and income to producers from domestic livestock and poultry in all the States; and
-48 percent shall be distributed in an amount proportionate to the animal health research capacity of the eligible institutions in each State to the total animal health research capacity in all the States.

Eligible institutions must provide non-Federal matching funds in States receiving annual amounts in excess of $100,000 under this authorization.

5. Research Grants - Section 2(c) of the 1965 Act (7 U.S.C. 450i(c)), as amended; and subject to provisions of NARETPA; Pub. L. 97-98; Critical Agricultural Materials Act, (Pub. L. 98-284); Pub. L. 99-198; FACT Act; FAIR Act; and AREERA authorizes Special Research Grants for periods not to exceed three years to SAES, all colleges

and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals. Grants are made available for the purpose of conducting research to facilitate or expand promising breakthroughs in areas of the food and agricultural sciences. AREERA expanded the purposes under this authority to include extension or education activities. Special Grants are awarded on a non-competitive or competitive basis involving scientific peer and merit review processes. Included in Special Grants are:

Minor Crop Pest Management pursuant to Section 2(c) of the 1965 Act (7 U.S.C. 450i(c)), as amended supports the work of the IR-4 program, which is the principal public program supporting the registration of pesticides and biological control agents for use on specialty crops. The IR-4 program provides coordination, funding, and scientific guidance for both field and laboratory research to develop data in support of registration packages to be submitted to the Environmental Protection Agency. Program investments are guided by a priority-setting process that engages commodity producers, State and Federal research scientists, and extension specialists. Funds are awarded on a competitive basis under the program.

Global Change UV-B Monitoring pursuant to Section 2(c) of the 1965 Act (7 U.S.C. 450i(c)), as amended, supports a climatological network which includes 38 climatological sites: 35 in the U.S., two in Canada, and one in New Zealand. The program supports action items for informing decisions and modeling efforts as outlined in the U.S. Global Change Research Program strategic plan.

Potato Research pursuant to Section 2(c) of the 1965 Act (7 U.S.C. 450i(c)), as amended, grants are awarded that develop and test improved potato varieties for commercial production. Targeted aspects of improvement include increased yields, quality, and market appeal; resistance to diseases, insects, and stress; and regional adaptability. The program also supports development of technologies to improve early generation and marker-assisted selection for resistance to critical and market-limiting insect pests and diseases. Funds are awarded on a competitive basis under the program.

Critical Agricultural Materials pursuant to the Critical Agricultural Materials Act, Pub. L. 98-284(7 U.S.C. 178 et. seq.), as amended, research grants are competitively awarded that support product development, demonstration, and validation of product performance under operational field conditions. Specific focus is on paints, coatings, adhesives for composites, and aerial delivery systems or components that are manufactured from domestically produced agricultural materials and are of strategic and industrial importance to benefit the economy, defense and general well-being of the Nation.

Aquaculture Centers grants pursuant to section 1475(d) of NARETPA (7 U.S.C. 3322) support aquaculture research, development, demonstration, and extension education to enhance viable and profitable U.S. aquaculture production to benefit consumers, producers, service industries, and the American economy. Funds are awarded on a competitive basis through a regional system.

Supplemental and Alternative Crops pursuant to section 1473D of NARETPA (7 U.S.C. 3319d) grants are awarded to conduct fundamental and applied research related to the development of new commercial products derived from natural plant material for industrial, medical, and agricultural applications.

Sustainable Agriculture Research and Education - Funds are competitively awarded for grants for sustainable agriculture and education as follows:

Sections 1621 and 1622 of the FACT Act (7 U.S.C. 5811 and 7 U.S.C. 5812 respectively) work to increase knowledge of and help farmers and ranchers to adopt practices that are profitable, environmentally sound, and good to communities. Grants are awarded by four regional administrative councils for administration of projects that address crop and livestock production and marketing, stewardship of soil and other natural resources, economics and quality of life.

Sections 1628 and 1629 of the FACT Act (7 U.S.C. 5831 and 7 U.S.C. 5832 respectively) funds are used to address the activities described in sections 1628 and 1629 of the FACT Act. The purpose of the program is the development of technical guides, handbooks, education and training for Cooperative Extension System agents, and other agricultural professionals in the university

system, private sector, or other government agencies, involved in the education and transfer of technical information concerning sustainable agriculture. Funds are used for statewide planning of sustainable agriculture programs on a regional basis.

6. Alfalfa and Forage Research Program pursuant to Section 1672 of FACT Act (7 U.S.C. 5925) supports research into the improvement of yields, creation of new uses of alfalfa and forages for bioenergy, and the development of new storage and harvest systems.

7. Aquaculture Research pursuant to Section 2(c) of the 1965 Act (7 U.S.C. 450i(c)), as amended supports aquaculture research to address issues related to genetics, disease, systems, and economics.

8. Agriculture and Food Research Initiative - Subsection (b) of the 1965 Act (7 U.S.C. 450i(b)) as amended by section 7406 of FCEA establishes an Agriculture and Food Research Initiative (AFRI) to make competitive grants for fundamental and applied research, extension, and education to address food and agricultural sciences (as defined under section 1404 of NARETPA). The Secretary is authorized to award competitive grants to State agricultural experiment stations; colleges and universities; university research foundations; other research institutions and organizations; Federal agencies; national laboratories; private organizations or corporations; individuals; or any group consisting of two or more of the aforementioned entities. Grants will be awarded to address critical issues in United States agriculture in areas of global food security and hunger, climate change, sustainable bioenergy, childhood obesity, food safety, and water in agriculture. Addressing these critical issues will engage scientists and educators with expertise in:
A) Plant health and production and plant products;
B) Animal health and production and animal products;
C) Food safety, nutrition, and health;
D) Bioenergy, natural resources, and environment;
E) Agriculture systems and technology; and
F) Agriculture economics and rural communities.

Of the amount of funds made available for research, no less than 60 percent shall be used for fundamental research and no less than 40 percent shall be used for applied research. No less than 30 percent of the amount allocated for fundamental research shall be made available to make grants for research to be conducted by multidisciplinary teams and no more than 2 percent may be used for equipment grants. In addition, awards may be made to assist in the development of capabilities in the agricultural, food, and environmental sciences (e.g., new investigator and strengthening awards). Eligible applicants include State agricultural experiment stations, colleges and universities, university research foundations, other research institutions and organizations, Federal agencies, national laboratories, private organizations or corporations, individuals, and any group consisting of two or more entities identified in this sentence.

To the maximum extent practicable, NIFA, in coordination with the Under Secretary for Research, Education, and Economics (REE), will make awards for high priority research, education, and extension, taking into consideration, when available, the determinations made by the National Agricultural Research, Extension, Education, and Economics Advisory Board. Integrated research, education and extension activities under this program are authorized pursuant to the authority found in section 406 of AREERA (7 U.S.C. 7626) and at an amount no less than 30 percent of the funds made available under this authority.

9. Small Business Innovation Research (SBIR) Program - The Small Business Innovation Development Act of 1982 (Pub. L. 97-219, as amended) (15 U.S.C. 638), Section 630 of the Act making appropriations for Agriculture, Rural Development and Related Agencies' programs for fiscal year ending September 30, 1987, and for other purposes, as made applicable by Section 101(a) of Pub. L. 99-591, 100 Stat. 3341authorizes a competitive program for SBIR. The Small Business Innovation Development Act was designed to strengthen the role of small, innovative firms in Federally funded research and development. Section 5102 of the National Defense Authorization Act for Fiscal Year 2012 (Pub. L. 112-81) amends the Small Business Innovation Development Act to allow the set aside of appropriations for extramural research and development for awards to eligible small firms as follows:

-Not less than 2.7 percent of appropriations in fiscal year 2013;
-Not less than 2.8 percent of appropriations in fiscal year 2014;

-Not less than 2.9 percent of appropriations in fiscal year 2015;
-Not less than 3.0 percent of appropriations in fiscal year 2016; and
-Not less than 3.2 percent of appropriations in fiscal year 2017 and each fiscal year thereafter.

Additionally, Section 5141 of the National Defense Authorization Act for Fiscal Year 2012 (Pub. L. 112-81) allows not more than 3 percent of program funds for fiscal years 2013 through 2015 for administration, oversight, and contract processing costs to conduct the SBIR program.

The SBIR Program is a three-phased effort, but only Phase I and Phase II, the feasibility and follow-on research and development phases respectively, are eligible for support with USDA funds. Firms are encouraged to secure Phase III funding for the commercialization phase from other public or private sources. The research areas supported under the SBIR program address critical issues in U.S. agriculture in the areas of global food security and hunger, climate change, sustainable bioenergy, childhood obesity, and food safety. Addressing these critical issues will engage small businesses with expertise in a number of areas including plant and animal production and protection, forests and related resource sciences, soil and water resources, food and nutrition sciences, rural development, biofuels and biobased products, aquaculture, and small and mid-sized farms. NIFA administers the SBIR program for USDA, including the funds set aside for SBIR from other USDA agencies.

10. Biotechnology Risk Assessment Research Grants Program (BRAG) – Section 1668 of FACT Act and as amended in section 7210 of FSRIA authorizes competitively awarded research grants to identify and develop appropriate management practices to minimize physical and biological risks associated with genetically engineered animals, plants, and microorganisms. Under BRAG, at least 2 percent of appropriations for biotechnology related research is set aside for awards under this program. NIFA and the Agricultural Research Service jointly administer this program.

BRAG supports the generation of new information that assists Federal regulatory agencies in making science-based decisions about the effects of introducing into the environment genetically engineered organisms, including plants, microorganisms (including fungi, bacteria, and viruses), arthropods, fish, birds, mammals, and other animals excluding humans. The program also supports applied and/or fundamental risk assessment research, which is defined as the science-based evaluation and interpretation of factual information in which a given hazard, if any, is identified, and the consequences associated with the hazard are explored.

11. 1994 Institutions Research - The 1994 Act (7 U.S.C. 301 note) uthorizes a competitive research grants program for institutions designated as 1994 Institutions. The program allows scientists at the legislatively eligible 1994 Institutions to participate in agricultural research activities that address tribal, national, and multi-State priorities.

12. Farm Business Management and Benchmarking Program – Section 7208 of FCEA amended FACT Act (7 U.S.C. 5925f) by adding section 1672D which authorizes the competitive program to improve the farm management knowledge and skills of agricultural producers, and establish and maintain a national, publicly available farm financial management database to support improved farm management. Funds are awarded on a competitive basis under the program.

13. Sun Grant Program – Section 7526 of FCEA (7 U.S.C. 8114) established this program for grants to sun grant centers and subcenter to enhance national energy through the development, distribution, and implementation of biobased energy technologies. Through biobased energy and product technologies, activities are supported that promote diversification, and the environmental sustainability of, agricultural production in the U.S., and economic diversification in rural areas of the U.S. Funds are also used to enhance the efficiency of bioenergy and biomass research and development programs through improved coordination and collaboration among USDA, Department of Energy, and land-grant colleges and universities.

14. Capacity Building for Non-Land Grant Colleges of Agriculture – Section 7138 of FCEA (7 U.S.C. 3319i) established this competitively awarded grants program to assist the institutions in maintaining and expanding the capacity of the NLGCA Institutions to conduct education, research, and outreach activities relating to agriculture, renewable resources, and other similar disciplines.

15. Federal Administration (direct appropriation) - Authority for direct appropriations is provided in the annual Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations Act. These funds are used to provide support services in connection with the planning and coordination of all research and education programs administered by NIFA, including grants management and reporting services.

16. Higher Education - Section 1417 of NARETPA (7 U.S.C. 3152), was amended by section 7106 of FCEA to provide eligibility to the University of the District of Columbia to receive grants and fellowships for food and agricultural science education. This program is also subject to provisions found in NARETPA; Pub. L. 97-98; Pub. L. 99-198; Second Morrill Act of 1890; Act of June 17, 1988, (Pub. L. 100-339); FACT Act; Equity in Educational Land-Grant Status Act of 1994, (Pub. L. 103-382); FAIR Act; AREERA; Pub. L. 106-78, Aviation and Transportation Security Act of November 19, 2001, (Pub. L. 107-71), and National Veterinary Medical Service Act of December 6, 2003, (Pub. L. 108-161) (NVMSA).

Institution Challenge, Multicultural Scholars, and Graduate Fellowship Grants Program - Funds are awarded for grants and fellowships for food and agricultural sciences education as follows:

Institution Challenge Grants pursuant to section 1417(b)(1) are designed to strengthen institutional capacities, including curriculum, faculty, scientific instrumentation, instruction delivery systems, and student recruitment and retention, to respond to identified State, regional, national, or international educational needs in the food and agricultural sciences, or in rural economic, community, and business development. All Federal funds competitively awarded under this program must be matched by the universities on a dollar-for-dollar basis from non-Federal sources.

The Higher Education Multicultural Scholars Program pursuant to section 1417(b)(5) increases the ethnic and cultural diversity of the food and agricultural scientific and professional workforce, and advances the educational achievement of minority Americans. This competitive program is designed to help the food and agricultural scientific and professional workforce achieve full participation by members of traditionally underrepresented racial and ethnic groups. It is open to all colleges and universities granting baccalaureate or higher degrees in agriculture, forestry, natural resources, home economics, veterinary medicine, and closely allied fields. Federal funds provide 75 percent of the four-year scholarship awards; the remaining 25 percent is contributed by the grantee institutions.

Higher Education-Graduate Fellowships Grants pursuant to section 1417(b)(6) are awarded on a competitive basis to colleges and universities to conduct graduate training programs to stimulate the development of food and agricultural scientific expertise in targeted national need areas. The program is designed to attract highly promising individuals to research or teaching careers in areas of the food and agricultural sciences where shortages of expertise exist. Typically graduate students in the food and agricultural sciences require a minimum of four years to complete a doctoral degree. The USDA fellowships program provides support for doctoral study for three years, and the universities are expected to support the student's fourth year of dissertation research.

The Secondary Education, Two-year Postsecondary Education, and Agriculture in the K-12 Classroom Program, authorized by section 1417(j) of NARETPA as amended (7 U.S.C. 3152 (j)), is designed to promote and strengthen secondary education in agribusiness and agriscience, and to increase the number and/or diversity of young Americans pursuing college degrees in the food and agricultural sciences. The intent of the program is to encourage teachers creatively to incorporate elements of agriscience and agribusiness into secondary education programs. Section 7109 of FCEA amended section 1417(j) of NARETPA to include support for current agriculture in the classroom programs for grades K-12. Proposals address targeted need areas of curricula design and instructional materials development; faculty development and preparation for teaching; career awareness; linkages between secondary, 2-year post-secondary, and institutions of higher learning; or education activities promoting diversity in students seeking degrees in agribusiness and agriscience. All Federal funds competitively awarded under this program must be matched by the institution on a dollar-for-dollar basis from non-Federal sources.

The 1890 Institution Teaching, Research, and Extension Capacity Building Grants Program pursuant to 1417(b)(4) stimulates the development of high quality teaching, research, and extension programs at the 1890 Land-Grant

Institutions and Tuskegee University and West Virginia State University to build their capabilities as full partners in the mission of the Department to provide more, and better trained, professionals for careers in the food and agricultural sciences. This competitive program is designed to strengthen institutional teaching, research, and extension capacities through cooperative programs with Federal and non-Federal entities, including curriculum, faculty, scientific instrumentation, instruction delivery systems, student experimental learning, student recruitment and retention, studies and experimentation, centralized research support systems, and technology delivery systems, to respond to identified State, regional, national, or international educational needs in the food and agricultural sciences, or rural economic, community, and business development. Section 7107 of FCEA amended section 1417(b)(4) of NARETPA (7 U.S.C. 3152(b)(4)) to expand extension capacity.

The USDA-Hispanic Serving Institutions Education Partnerships Grants Program pursuant to section 1455 of NARETPA (7 U.S.C. 3241) is the foundation for USDA efforts to better serve Hispanic Americans and to prepare them for careers in agriscience and agribusiness. This competitive program expands and strengthens academic programs in the food and agricultural sciences at Hispanic-serving colleges and universities, including two-year community colleges that have at least 25 percent Hispanic enrollment. Section 7128 of FCEA amended section 1455 to require that all grants made under this program be awarded on a fully competitive basis, and removed the requirement for consortia in subsection (b)(1).

The Native American Institutions Endowment Fund, authorized by the 1994 Act provides for the establishment of an endowment for the legislatively eligible 1994 Institutions (Tribally-controlled colleges). The interest derived from the endowment is distributed to the 1994 Institutions on a formula basis. This program will enhance educational opportunities for Native Americans by building educational capacity at these institutions. The institutions are also able to use the funding for facility renovation and construction. On the termination of each fiscal year, the Secretary shall withdraw the income from the endowment fund for the fiscal year, and after making adjustments for the cost of administering the endowment fund, at 4 percent, distribute the adjusted income as follows. Sixty percent of the adjusted income is distributed among the 1994 Institutions on a pro rata basis, the proportionate share being based on the Indian student count. Forty percent of the adjusted income is distributed in equal shares to the 1994 Institutions.

The Tribal Colleges Education Equity Grants Program - The 1994 Act authorizes the use of funds to benefit those entities identified as the 1994 Land Grant Institutions. Funds are distributed on a formula basis and may be used to support teaching programs in the food and agricultural sciences in the targeted need areas of: 1) curricula design and instructional materials development; 2) faculty development and preparation for teaching; 3) instruction delivery systems; 4) student experimental learning; 5) equipment and instrumentation for teaching; and 6) student recruitment and retention. Section 7402 of FCEA amended section 532 of the 1994 Act by adding Ilisagvik College. Also FCEA amended section 534 to authorize that funds payable to a 1994 Institution be withheld and redistributed to other 1994 Institutions in the event that the Institution declines to accept funds or fails to meet the accreditation requirements of section 533.

The Alaska Native Serving and Native Hawaiian-Serving Institutions Education Grants Program, originally authorized by section 759 of Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2000, Pub. L. 106-78, and redesignated as section 1419B of NARETPA (7 U.S.C. 3156), is aimed at recruiting, supporting and educating minority scientists and professionals, and advancing the educational capacity of Native-serving institutions. Funds may be used to support projects in the targeted areas of: 1) enhancing educational equity for under-represented students; 2) strengthening educational capacities, including libraries, curriculum, faculty, scientific instrumentation, instruction delivery systems, and student recruitment and retention; 3) attraction and retention of undergraduate and graduate students; and 4) cooperative initiatives to maximize the development of resources such as faculty, facilities and equipment to improve teaching programs. Additionally, section 7112 of FCEA permits consortia to designate fiscal agents for the members of the consortia and to allocate among the members funds made available under this program. Funds are awarded on a competitive basis under the program.

Grants for Insular Areas Program - Funds are awarded for grants to insular areas of the Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, the Northern Mariana Islands, Micronesia, the Marshall Islands, or the Republic of Palau for resident instruction and distance education as follows:

Resident Instruction Grants pursuant to section 1491 of NARETPA (7 U.S.C. 3363), as amended, is designed to enhance teaching programs in extension programs in food and agricultural sciences that are located in the insular areas. Funds may be used that enhance programs in agriculture, natural resources, forestry, veterinary medicine, home economics, and disciplines closely allied to the food and agriculture production and delivery systems. Funds are awarded on a competitive basis under the program.

Distance Education Grants pursuant to section 1490 of NARETPA (7 U.S.C. 3362), as amended, is designed to strengthen the capacity of insular area institutions. Funds may be used to enhance the capability of the institutions to carry out collaborative distance food and agricultural education programs using digital network technologies. Funds are awarded on a competitive basis under the program.

The Veterinary Medicine Loan Repayment Program, authorized by section 1415A of NARETPA (7 U.S.C. 3151a) as amended, provides for a loan repayment program for a specified payment amount of qualifying educational loans of veterinarians for geographical areas that have a shortage of veterinarians; and areas of veterinary practice that the Secretary determines have a shortage of veterinarians, such as food animal medicine, public health, epidemiology, and food safety. FCEA amended section 1415A to require NIFA to give priority to agreements with veterinarians for the practice of food animal medicine in veterinarian shortage situations and prohibits transfer of funds to the Food Safety and Inspection Service under the National Veterinary Medical Service Act. Funds are awarded on a competitive basis under the program.

Extension Activities

The mission of the Cooperative Extension System, a national educational network, is to help people improve their lives through an educational process that uses scientific knowledge focused on issues and needs. Cooperative Extension work was established by the Smith-Lever Act of May 8, 1914, as amended. This work is further emphasized in Title XIV of NARETPA to fulfill the requirements of the Smith-Lever Act, the Cooperative Extension Service in each State, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, the Northern Marianas and Micronesia, conduct educational programs to improve American agriculture, communities of all sizes, and strengthen families throughout the United States. This publicly funded, out-of-the classroom educational network combines the expertise and resources of Federal, State and local partners. The partners in this unique system are:

-NIFA of USDA;

-Cooperative Extension Services at land-grant universities throughout the United States and its territories; and

-Cooperative Extension Services in nearly all of the 3,150 counties in the United States.

Thousands of Extension employees and nearly 3 million volunteers support this partnership and magnify its impact. Strong linkages with both public and private external groups are also crucial to the Extension System's strength and vitality.

1. Smith-Lever 3 (b) & (c) - Smith-Lever 3 (b) & (c) formula funds of the Smith-Lever Act, 7 U.S.C. 343 (b)(3), as amended, comprise approximately two-thirds of the total Federal funding for extension activities. These funds are allocated to the States on the basis of the rural and farm population of each State and the territories. States can utilize funds for locally determined programs, as well as for high priority regional and national concerns.

In accordance with section 4 of the Smith-Lever Act, eligible State institutions are required to submit a Plan of Work to NIFA for approval before Smith-Lever 3 (b) & (c) formula funds are distributed. Of the funds authorized under section 3(c), four percent shall be allotted for Federal administrative, technical, and other services, and for coordinating the extension work of the Department and the several States, Territories, and possessions. The remaining balance of funds formula distribution is:

-20 percent is divided equally among the States;
-40 percent is paid to the several States in the proportion that the rural population of each bears to the total rural population of the several States as determined by the census; and
-40 percent shall be paid to the several States in the proportion that the farm population of each bears to the total farm population of the several States as determined by the census.

States must expend 25 percent, or two times the level spent in fiscal year 1997 (whichever is less), on cooperative extension activities in which two or more States cooperate to solve problems that concern more than one State. This also applies to activities that integrate cooperative research and extension.

Smith-Lever 3(b) and (c) funding provided to an 1862 Land-Grant Institution must be matched with non-Federal funding on a dollar-for-dollar basis. Matching requirements for the insular areas of the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, Micronesia, American Samoa, and the Northern Mariana Islands are subject to the matching requirements of an amount equal to not less than 50 percent of the formula funds distributed to each insular area. These provisions also state that the Secretary may waive the matching funds requirement of an insular area for any fiscal year if the Secretary determines the government of the insular area will be unlikely to meet the matching requirement for the fiscal year.

2. Smith-Lever 3(d) - These funds are allocated to the States to address special programs or concerns of regional and national importance. Section 7403 of FCEA amends section 3(d) of the Smith-Lever Act (7 U.S.C. 343(d)) to expand eligibility to the 1890 Land-Grant Institutions and required that funds be awarded on a competitive basis with the exception of the Expanded Food and Nutrition Education Program in which funds are distributed on a formula basis. Section 7417 of FCEA provided eligibility for these programs to the University of the District of Columbia. The following extension programs are supported under the Smith-Lever 3(d) funding mechanism and other specific authorizations:

Expanded Food and Nutrition Education Program – These funds are awarded to the 1862 and 1890 Land-Grant Institutions according to a statutory formula provided in section 1425 of NARETPA (7 U.S.C. 3175) which is amended by section 7116 of FCEA. Funds are used to provide low-income youth and families with information to increase nutrition knowledge and improve nutritional practices. Funds are awarded to the eligible institutions as follows: (1) FY 1981 bases; (2) $100,000 to each institution; (3) a percentage of the increase in funding that exceeds the FY 2007 appropriated level (i.e., 11 percent for FY 2010, 12 percent for FY 2011, 13 percent for FY 2012, 14 percent for FY 2013, and 14 percent for FY 2014 and thereafter) distributed to the 1890 Land-Grant Institutions according to the prorata population for each institution at or below 125 percent of the poverty level; and the remainder to the 1862 Land-Grant Institutions according to the prorata population for each institution at or below 125 percent of the poverty level.

Farm Safety and Youth Farm Safety Education and Certification Program – The Rural Health and Safety Education Act of 1990, section 2390 of the FACT Act (7 U.S.C. 2661) – The Farm Safety program provides competitively awarded projects to Extension working with non-profit disability organizations in conducting AgrAbility projects designed to assist farmers and ranchers with disabilities to stay in agricultural production. The competitively-awarded Youth Farm Safety Education and Certification Program provides funding to states to conduct training and certification needs of youth working in agriculture.

Children, Youth, & Families At Risk - This program focuses on America's children, youth and families to help promote and provide positive, productive, secure environments and contributions to communities and the Nation. Projects are awarded competitively to focus on the national outcomes for youth and families which include early childhood, school age youth, teens, and family outcomes with emphasis on science and reading literacy, and building youth and family program and community capacity.

Federally-Recognized Tribes Extension Program (formerly Extension Indian Reservations) - Section 1677 of the FACT Act, 7 U.S.C. 5930 – Competitively awarded projects to State Extension Services are implemented by Federally Recognized Tribes to provide assistance and educational programs in agriculture, community development, youth development, and other societal issues facing Native Americans on reservations..

New Technologies for Agricultural Extension - Competitively awarded projects that support an Internet-based tool that provides fast and convenient access to objective, peer-reviewed, and researched-based information, education, and guidance on subjects that include food safety, homeland security, natural resources and environment, youth development, families, nutrition and health, and other agricultural related topics.

3. Payments to 1890 Colleges and Tuskegee University and West Virginia State University - Section 1444 of NARETPA, (7 U.S.C. 321-329), provides support to the 1890 Land-Grant Colleges and Universities for fostering, developing, implementing and improving extension educational programs to benefit their clientele. The general provisions, section 753, of Pub. L. 107-76 designated West Virginia State University as eligible to receive funds under any Act of Congress authorizing funding to 1890 Institutions, including Tuskegee University. Eligible State institutions are required to submit a five-year Plan of Work to NIFA for approval before these formula funds are distributed. Section 7121 of FCEA amended section 1444(a)(2) (7 U.S.C. 3221(a)(2)) to require that at least 20 percent of the total appropriations for each fiscal year under the Smith-Lever Act be allocated for payments to 1890 Institutions for extension activities. Funds will be distributed as follows:

-4 percent to NIFA for administrative, technical, and other services;
-Payments to States in fiscal year 1978 are a fixed base. Of funds in excess of this amount:
- 20 percent is distributed equally to each State;
- 40 percent is distributed in an amount proportionate to the rural population of the State in which the eligible institution is located to the total rural population of all States in which eligible institutions are located; and
-40 percent is distributed in an amount proportionate to the farm population of the State in which the eligible institution is located to the total farm population of all States in which eligible institutions are located.

In accordance with section 1449(c) of NARETPA (7 U.S.C. 3222d), Federal funds provided under section 1444 must be matched by the State from non-Federal sources. Section 1449(c) provides that the Secretary of Agriculture may waive the matching funds requirement above the 50 percent level for any fiscal year for an eligible institution of a State if the Secretary determines that the State will be unlikely to satisfy the matching requirement.

Allotments to Tuskegee University and Alabama A&M University shall be determined as if each institution were in a separate State. Four percent of the funds appropriated under this program is set-aside for Federal Administration.

4. 1890 Facilities (Sec. 1447) - Section 1447 of NARETPA, 7 U.S.C. 3222b, funds are used to upgrade research, extension, and teaching facilities at the eligible1890 land-grant colleges, including Tuskegee University and West Virginia State University. Funds are distributed on a noncompetitive formula basis.

5. The Renewable Resources Extension Act - Renewable Resources Extension Act of 1978, 16 U.S.C. 1671-1676, provides funding for expanded natural resources education programs. Funds are distributed primarily by formula to 1862 and 1890 Land-Grant Institutions for educational programs, and a limited number of special emphasis national programs.

6. Rural Health and Safety Education – Rural Health and Safety Education Act of 1990, section 2390 of the FACT Act 7 U.S.C. 2662 note-This program competitively awards projects that focus on issues related to individual and family health education in one or more of the following areas: 1) healthy living behaviors, family interaction and environmental attributes in rural areas; 2) health literacy and its impact on health status in rural and farm families; and/or 3) related issues of health promotion and health care to rural individuals and families. Land-grant colleges and universities are eligible to receive funds under the Act of July 2, 1862 (7 U.S.C. 301 et seq.), and the Act of August 30, 1890 (7 U.S.C. 321 et seq.), including Tuskegee University, West Virginia State University and the University of the District of Columbia. Applications may also be submitted by any of the Tribal colleges and universities designated as 1994 Land-Grant Institutions under the Educational Land-Grant Status Act of 1994 (7 U.S.C. 2662(i)).

7. Federal Administration (direct appropriation) - Provides a portion of the general operating funds for the Federal staff, and national program planning, coordination, and program leadership for the extension work in partnership

with the States and territories. Agriculture in the Classroom (AITC) program is administered under the federal administration line. AITC advances agricultural literacy through a grassroots network of State coordinators, school teachers, agribusiness leaders, and other educators by supporting initiatives that include expanding outreach to underrepresented populations; regional demonstration projects; integration of information technology to reduce program delivery costs; and outstanding teacher recognition initiatives.

8. Extension Services at the 1994 Institutions - The 1994 Act authorizes appropriations for Native American communities and Tribal Colleges for extension activities as set forth in the Smith Lever Act. Funding is awarded on a competitive basis to legislatively eligible institutions.

9. Food Animal Residue Avoidance Database Program (FARAD) – Section 7642 of AREERA authorizes the FARAD program. The program is a computer-based decision support system designed to provide livestock producers, extension specialists, and veterinarians with practical information on how to avoid drug, pesticide, and environmental contaminant residue problems.

10. Women and Minorities in Science, Technology, Engineering, and Mathematics Fields - Section 7204 of FCEA amended section 1672 of the FACT Act which provides for competitively awarded grants to increase participation by women and underrepresented minorities from rural areas in the field of science, technology, engineering, and mathematics. Additionally, priority will be given to eligible institutions that carry out continuing programs funded by the Secretary.

11. Beginning Farmer and Rancher Development Program - Section 7409 of the Agricultural Act of 2014 amended section 7405 of FSRIA and made available, until expended, the enacted amount of $20,000,000 for each of FY 2014 through FY 2018. The purpose of this mandatory, competitive program is to support the nation's beginning farmers and ranchers by making competitive grants to new and established local and regional training, education, outreach, and technical assistance initiatives that address the needs of beginning farmers and ranchers. To be eligible for a grant under this authority, an applicant must be a collaborative State, tribal, local, or regionally-based network or partnership of public or private entities which may include a State cooperative extension service; a Federal, state, or tribal agency; a community-based or non-governmental organization; a college or university (including an institution offering associate's degree) or a foundation maintained by a college or university; or any other appropriate partner.

All grantees are required to provide a 25 percent match in the form of cash or in-kind contributions. The maximum amount of an award is $250,000 and the maximum project period is three years.

12. Biodiesel Fuel Education Program - The goals of this program as originally established in Section 9004 of FSRIA were to stimulate biodiesel consumption and the development of a biodiesel infrastructure. Congressionally mandated funding will support competitively awarded grants to address the need to balance the positive environmental, social, and human health impacts of biodiesel utilization with the increased per gallon cost to the user. Biodiesel Education projects will focus on the development of practical indicators or milestones to measure their progress towards achieving the following objectives:
A) Enhance current efforts to collect and disseminate biodiesel information;
B) Coordinate with other biodiesel educational or promotional programs, and with Federal, State, and local programs aimed at encouraging biodiesel use, including the Energy Policy Act of 2005 program;
C) Create a nationwide networking system that delivers biodiesel information to targeted audiences, including users, distributors, and other infrastructure-related personnel;
D) Identify and document the benefits of biodiesel (e.g., lifecycle costing); and
E) Gather data pertaining to information gaps and develop strategies to address the gaps.

Mandatory funding in the enacted amount of $1,000,000 is to be made available for each of FY 2014 through FY 2018 to carry out this program.

13. Agriculture Risk Management Education Program - Section 133 of the Agricultural Risk Protection Act of 2000 amended the Federal Crop Insurance Act to establish a competitive grants program for educating agricultural producers on the full range of risk management activities. These activities include futures, options, agricultural trade options, crop insurance, cash forward contracting, debt reduction, production diversification, marketing plans

and tactics, farm resources risk reduction, and other appropriate risk management strategies. This program brings the existing knowledge base to bear on risk management issues faced by agricultural producers and expands the program throughout the Nation on a regional and multi-regional basis. Mandatory funding in the enacted amount of $5,000,000 is to be made available annually for competitive awards.

Integrated Activities

The following programs are included under the integrated activities account:

Section 7129 of FCEA amended section 406(b) of AREEERA (7 U.S.C. 7626(b)) by adding Hispanic-serving agricultural colleges and universities (HSACUs) to the eligibility for section 406 funds. HSACUs are defined in section 1404(10) of NARETPA as colleges and universities that (1) qualify as Hispanic-serving institutions; and (2) offer associate, bachelors, or other accredited degree programs in agriculture-related fields. The following programs are provided pursuant to the authority found in section 406. Funding for all programs is provided on a competitive basis.

1. Water Quality - This program assists the State Agricultural Experiment Stations and the Cooperative Extension System to become viable partners with other State and Federal agencies in addressing water quality problems of National importance.

2. Methyl Bromide Transition Program - This program is designed to support the discovery and implementation of practical pest management alternatives for commodities affected by the methyl bromide phase-out. The program focuses on short- to medium-term solutions for all commodities at risk using either combinations of presently available technologies or some newly developed practices.

3. Organic Transition Program - This program supports the development and implementation of biologically based management practices that mitigate the ecological, agronomic and economic risks associated with a transition from conventional to organic agricultural production systems.

4. Crop Protection/Pest Management - This program will support IPM projects that respond to pest management challenges with coordinated state-based, regional and national research, education, and extension programs. Activities also will promote further development and use of IPM approaches.

Additional authorities for integrated programs include:

1. Regional Rural Development Centers - Section 2(c)(1)(B) of the 1965 Act (7 U.S.C. 450i(c)(1)(B)) provides funds at four regional centers in Pennsylvania, Mississippi, Utah, and Michigan. Programs are designed to improve the social and economic well-being of rural communities in their respective regions. These funds are distributed competitively according to the extent of the problem that requires attention in each state.

2. Food and Agriculture Defense Initiative Program - Section 1484 of NARETPA (7 U.S.C. 3351) provides for the support and enhancement of nationally-coordinated plant and animal disease diagnostic networks and support activities to identify and respond to high risk biological pathogens in the food and agricultural system. The diagnostic networks currently supported are the National Plant Diagnostic Network (NPDN) and the National Animal Health Laboratory Network (NAHLN). These networks are state/federal partnerships that are used to increase the ability to protect the Nation from plant and animal disease threats by providing surveillance, early detection, mitigation, and recovery functions that serve to minimize these threats. The Extension Disaster Education Network (EDEN) is supported under this program also. EDEN is a collaborative national effort that is led by state Cooperative Extension Services (CES) to provide disaster education resources for CES educators to use to help farmers and other public sectors in the event of disasters, including agricultural disasters.

3. Organic Agriculture Research and Extension Initiative - Section 7211 of the Agricultural Act of 2014 amended section 1672B of the FACT Act to provide the enacted amount of $20,000,000 for FY 2014 through FY 2018 for the Organic Agricultural Research and Extension Initiative. The purpose of this congressionally mandated program is

to make competitive grants to support research, education, and extension activities regarding organically grown and processed agricultural commodities and their economic impact on producers, processors, and rural communities.

4. Specialty Crop Research Initiative - Section 7311 of FCEA amended Title IV of AREERA (7 U.S.C. 7621 et seq.) to establish a specialty crop research and extension initiative to address the critical needs of the specialty crop industry by developing and disseminating science-based tools to address needs of specific crops and their regions. The Specialty Crop Research Initiative (SCRI) competitive grants program was established to solve critical industry issues through research and extension activities. Specialty crops are defined as fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops including floriculture. SCRI will give priority to projects that are multistate, multi-institutional, or trans-disciplinary; and include explicit mechanisms to communicate results to producers and the public. Projects must address at least one of the following five focus areas:

A) Research in plant breeding, genetics, and genomics to improve crop characteristics;
B) Efforts to identify and address threats from pests and diseases, including threats to pollinators;
C) Efforts to improve production efficiency, productivity, and profitability over the long term;
D) New innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and
E) Methods to prevent, detect, monitor control, and respond to potential food safety hazards in the production and processing of specialty crops.

Eligible applicants for grants under this authority include Federal agencies, national laboratories, colleges and universities, research institutions and organizations, private organizations or corporations, State agricultural experiment stations, individuals, and groups consisting of two or more entities defined in this sentence. Mandatory funding in the enacted amount of $80,000,000 is to be made available for FY 2014 and each year thereafter to carry out the SCRI.

Of the monies available to the SCRI, $25,000,000 is reserved, for each of the fiscal years 2014 through 2018, to carry out the Emergency Citrus Disease Research and Extension Program. Section 7306 of the Agricultural Act of 2014 establishes a competitive research and extension grant program to combat diseases of citrus by:

1) Conducting scientific research and extension activities, technical assistance and development activities to combat citrus diseases and pests, both domestic and invasive, which pose imminent harm to the U.S. citrus production and threaten industry viability; and
2) Providing support for the dissemination and commercialization of relevant information, techniques, and technologies.

In carrying out the Emergency Citrus Disease Research and Extension Program, priority will be given to projects that address the research and extension priorities established pursuant to subsection (g)(4) of section1408A of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S. C. 3123a).

Biomass Research and Development Initiative

The purpose of this initiative, authorized under Section 9008 of FSRIA, is to competitively award grants, contracts, and financial assistance to eligible entities to carry out research and development and demonstration of: (1) Biofuels and biobased products; and (2) the methods, practices, and technologies, for the production of biofuels and biobased products. This program was transferred on October 1, 2008, from Rural Development to NIFA. Awardees are required to cost share at 20 percent for research activities and 50 percent for demonstration. Waiver authority for the cost share requirement is provided to the Secretary. To be eligible for an award, an applicant must be an institution of higher education, a National Laboratory, a Federal research agency, a State research agency, a private sector entity, a nonprofit organization, or a consortium of two or more of the entities defined in this sentence. Mandatory funding is made available in the enacted amount of $3,000,000 for each FY 2014 through FY 2017.

This initiative requires the Secretary of Agriculture and the Secretary of Energy, in consultation with the Environmental Protection Agency and heads of other appropriate departments and agencies to direct the initiative in the following three areas:

A) Feedstocks development;
B) Biofuels and biobased products development; and

C) Biofuels development analysis.

Community Food Projects

Section 25 of the Food Stamp Act of 1977, as amended by Section 4125 of the Farm Security and Rural Investment Act of 2002, authorized funding in support of competitively awarded Community Food Projects (CFP). The objectives of the CFP Program are to increase the food self-reliance of communities; promote comprehensive responses to local food, farm, and nutrition issues; develop innovative linkages between the public, for-profit, and nonprofit food sectors; and encourage long-term planning activities and comprehensive multi-agency approaches. Projects are intended to bring together stakeholders from the distinct parts of the food system and to foster understanding of national food security trends and how they might improve local food systems. Mandatory funding is made available in the enacted amount of $5,000,000 in FY 2014 and $9,000,000 for each of FY 2015 through FY 2018.

For NIFA program coordination and planning are carried out by staff located entirely in the Washington, D.C. area. As of September 30, 2013, there were 375 permanent full-time employees and 27 other employees.

Agency Audit Reports

OMB Circular A-133 Audits

The audits below were completed during fiscal year 2013.

Year	Audit Report Number	Completion Date	Name	Audit Period Year Ended
2011	11-1037	Mar. 26, 2013	Intertribal Agricultural Council	12/31/2011
2012	12-1000	Mar. 28, 2013	American Indian Higher Consortium	09/30/2012
2012	12-1001	Mar. 28, 2013	City of Menominee	06/30/2012
2012	12-1002	Mar. 28, 2013	Pittsville Public School District	06/30/2012
2012	12-1003	Mar. 26, 2013	School District of Greenfield	06/30/2012
2012	12-1004	Mar. 28, 2013	School District of Westfield	06/30/2012
2012	12-1005	Mar. 26, 2013	The Nature Conservancy	06/30/2012
2012	12-1006	Mar. 26, 2013	University System of New Hampshire	06/30/2012

The audits below are ongoing in fiscal year 2014.

Year	Audit Report Number	Name	Audit Period Year Ended
2001	01-1007	College of Micronesia Land Grant Program	06/30/2001
2001	01-1016	Northern Marianas College	09/30/2001
2003	03-1015	Northern Marianas College	09/30/2003
2006	06-1007	College of Micronesia	09/30/2006
2006	06-1060	University of Missouri System	06/30/2006
2007	07-1013	Northern Marianas College	09/30/2007
2007	07-1028	The Ohio State University	06/30/2007
2007	07-1032	University of Missouri System	06/30/2007

Year	Audit Report Number	Name	Audit Period Year Ended
2007	07-1049	Territory of American Samoa	09/30/2007
2009	09-1001	American Samoa Community College	09/30/2009
2009	09-1008	College of Micronesia	09/30/2009
2009	09-1027	Northern Marianas College	09/30/2009
2010	10-1001	University of Wyoming	06/30/2010
2010	10-1005	State of Wisconsin	06/30/2010
2010	10-1018	Joslin Diabetes Center, Inc.	09/30/2010
2010	10-1019	Kentucky State University	06/30/2010
2010	10-1020	Marshall Public Schools	06/30/2010
2010	10-1047	College of Menominee Nation	06/30/2010
2010	10-1049	American Samoa Community College	09/30/2010
2010	10-1050	Seattle Children's Hospital	09/30/2010
2010	10-1051	Northern Marianas College	09/30/2010
2010	10-1052	College of Micronesia	09/30/2010
2010	10-1053	Christiana Care Health System, Inc.	06/30/2010
2010	10-1054	Jefferson County Commission	09/30/2010
2010	10-1055	Villanova University	05/31/2010
2010	10-1056	National Tribal Development Association	09/30/2010
2011	11-1001	Kentucky State University	06/30/2011
2011	11-1010	Mississippi Association of Cooperatives, Inc.	04/30/2011
2011	11-1013	Lincoln University	06/30/2011
2011	11-1021	Africare	06/30/2011
2011	11-1022	American Samoa Community College	09/30/2011
2011	11-1023	Arkansas Land and Farm Development Corp	09/30/2011
2011	11-1024	Delaware State University	06/30/2011
2011	11-1025	Georgetown University	06/30/2011
2011	11-1027	State of Connecticut	06/30/2011
2011	11-1028	State of Texas C/O Comp of Public Account	08/31/2011
2011	11-1029	State of Wisconsin	06/30/2011
2011	11-1030	The Shaw University, Inc.	06/30/2011
2011	11-1031	Universidad Central Del Caribe, Inc.	06/30/2011
2011	11-1032	University of Illinois	06/30/2011
2011	11-1033	Yeshiva University	06/30/2011
2011	11-1034	Jefferson County Commission	09/30/2011
2011	11-1035	National Tribal Development Association	12/31/2011
2011	11-1036	State of Colorado	06/30/2011
2011	11-1039	Christiana Care Health Systems, Inc.	06/30/2011
2011	11-1040	College of Marshall Island	09/30/2011
2011	11-1041	Growing Power, Inc.	12/31/2011

Year	Audit Report Number	Name	Audit Period Year Ended
2011	11-1042	Indian Nation Conservation Alliance	12/31/2011
2011	11-1043	Morehouse Council on Aging, Inc.	06/30/2011
2011	11-1044	Northern Marianas College	09/30/2011
2011	11-1045	Partners Healthcare	09/30/2011
2011	11-1046	Smithsonian Institution	09/30/2011
2011	11-1047	University of the Virgin Island	09/30/2011
2012	12-1007	Cambridge Public Health Commission	06/30/2012
2012	12-1008	Kentucky State University	06/30/2012
2012	12-1009	School District of Denmark	06/30/2012
2012	12-1010	School District of Granton	06/30/2012
2012	12-1011	School District of Thorp	06/30/2012
2012	12-1012	Seattle Children's Hospital	09/30/2012
2012	12-1013	The Shaw University, Inc.	06/30/2012
2012	12-1014	State of Texas C/O Comptroller of Public Accounts	08/31/2012
2012	12-1015	University of Missouri System	06/30/2012
2012	12-1016	Yeshiva University	06/30/2012
2012	12-1017	American Samoa Community College	09/30/2012
2012	12-1018	Delaware State University	06/30/2012
2012	12-1019	Georgetown University	06/30/2012
2012	12-1020	Northeastern Illinois University	06/30/2012
2012	12-1021	State of Colorado	06/30/2012
2012	12-1022	State of Connecticut	06/30/2012
2012	12-1023	State of Florida	06/30/2012
2012	12-1024	State of Wisconsin	06/30/2012
2012	12-1025	University of Illinois	06/30/2012
2012	12-1026	Salish Kootenai College, Inc.	06/30/2012
2012	12-1027	National Audubon Society, Inc.	06/30/2012
2012	12-1028	The Ecological Society of America	06/30/2012
2012	12-1029	Emory University	08/31/2012
2012	12-1030	Indian Nations Conservation Alliance	12/31/2012
2012	12-1031	Arkansas Land and Farm Development Corporation	09/30/2012
2012	12-1032	State of Colorado	06/30/2012
2012	12-1033	St. Luke's Roosevelt Hospital Center	12/31/2012
2012	12-1034	Growing Power, Inc.	12/31/2012
2012	unassigned	University of Puerto Rico	07/31/2012
2012	unassigned	University of the Virgin Islands	09/30/2012

OIG Reports

The audits below were completed during fiscal year 2013.

OIG Audit Number	Completion Date	Title
50703-02-13	Nov. 30, 2012	Analysis of Jobs Reported for American Recovery and Reinvestment Act – USDA Federal Reporting Data Quality Review.

The audits below are ongoing in fiscal year 2014.

OIG Audit Number	Title
50601-0002-16	Section 632(a) Transfer of Funds from USAID to the USDA for Afghanistan. Final report to be issued end of January 2014.
50703-1-23	American Recovery and Reinvestment Act Trade Adjustment Assistance for Farmers Program. Final report issued 10/18/2013.

GAO Studies

The reports below were completed during fiscal year 2013.

GAO Job Code	Completion Date	Title
GAO-13-70R	Nov. 15, 2012	Small Business Research Programs: Agencies Are Implementing New, Fraud, Waste, and Abuse Requirements.
GAO-13-136	Mar. 11, 2013	WIND ENERGY: Additional Actions Could Help Ensure Effective Use of Federal Financial Support.
GAO-13-255	Apr. 12, 2013	AGRICULTURAL RESEARCH: Two USDA Agencies Can Enhance Safeguards against Project Duplication and Strengthen Collaborative Planning.
GAO-13-421	Sep. 9, 2013	SMALL BUSINESS RESEARCH PROGRAMS: Actions Needed to Improve Compliance with Spending and Reporting Requirements.
GAO-13-424	May 23, 2013	HOMELAND SECURITY: An Overall Strategy Is Needed to Strengthen Disease Surveillance in Livestock and Poultry.
GAO-13-591	Jul. 29, 2013	Grant Workforce: Agency Training Practices Should Inform Future Government-wide Efforts.

The reports below are ongoing in fiscal year 2014.

GAO Job Code	Title
131224	STEM Survey
197232	Oversight of Internal Controls for Grants
361530	SBIR & STTR Programs' Expenditure Compliance for FY 2012
361531	USDA Climate Change Efforts
540257	Alternative Fuels for Aviation

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Available Funds and Staff Years (SYs)

(Dollars in thousands)

Item	2012 Actual		2013 Actual		2014 Estimate		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Detailed Information for each account can be found in the Project Statements.								
Research and Education Activities:								
Discretionary Appropriations	$710,321	242	$743,844	233	$777,644	247	$842,773	247
Biomass Research and Development Initiative								
Mandatory Appropriations	40,000	-	-	-	3,000	-	3,000	-
Extension Activities:								
Discretionary Appropriations	475,183	155	475,854	148	469,191	154	468,968	154
Mandatory Appropriations	24,000	-	5,000	-	25,000	-	25,000	-
Integrated Activities:								
Discretionary Appropriations	21,482	8	21,482	6	35,317	9	28,821	9
Mandatory Appropriations	70,000	-	-	-	100,000	-	100,000	-
Rescission	-		-60,996	-	-	-	-	-
Sequestration	-	-	-33,470	-	-360	-	-	-
Adjusted Appropriation	1,340,986	405	1,151,714	387	1,409,792	410	1,468,562	410
Transfers In (Congressional Relations)	111		102		-		-	
Balance Available, Start of Year	219,410	-	204,187	-	244,767	-	-	-
Other Adjustments	31,182	-	37,915	-	-	-	-	-
Total Available	1,591,689	405	1,393,918	387	1,654,559	410	1,468,562	410
Lapsing Balances	-780	-	-3,011	-	-	-	-	-
Balance Available, End of Year	-204,187	-	-244,767	-	-	-	-	-
Obligations	1,386,722	-	1,146,140		1,654,559		1,468,562	
Other Appropriations:								
Biodiesel Fuel Education Program	1,000	-	-		1,000		1,000	
Community Food Projects Program	5,000	-	5,000		5,000		9,000	
Total, Other Appropriations	6,000		5,000		6,000		10,000	
Total, Appropriations	1,392,722		1,151,140		1,660,559		1,478,562	
Obligations under other USDA appropriations:								
Research and Education Activities:								
Agricultural Research Service:								
Bean Productivity Research	5,000	-	-	-	-	-	-	-
Biotechnology Risk Assessment	1,642	-	1,498	-	1,447	-	1,447	-
Salary, Benefits and Operating Expenses for Detailee	14	-	-	-	-	-	-	-
Support of the EC-US Task Force on Animal Bio	4	-	-	-	-	-	-	-
USA Science and Engineering Festival	-	-	5	-	-	-	-	
Economic Research Service:								
Salary, Benefit and Operating Expenses for Detailee	21	-	-	-	-	-	-	-
Forest Service:								
Biotechnology Risk Assessment	63	-	63	-	63	-	63	-
Salary, Benefits and Operating Expenses for Detailees	76	-	19	-	-	-	-	-
National Atmospheric Deposition Program	235	-	219	-	-	-	-	-
Office of Human Resources Management:								
SES Candidate	116	-	-		-		-	
Risk Management Agency:								
Various agencies sharing cost of the USDA Small			-		-		-	
Business Innovation Research Program (SBIR)	2,017	-	2,018	-	-	-	-	-
Various research agencies sharing cost of the Current			-					
Research Information System (CRIS)	640	-	640	-	-	-	-	-
Other Anticipated Reimbursements:	-	-	-	-	2,952	-	2,952	-
Subtotal, Res./Ed. Other USDA Appropriations	9,828	-	4,462	-	4,462	-	4,462	-

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Available Funds and Staff Years (SYs)

(Dollars in thousands)

Item	2012 Actual		2013 Actual		2014 Estimate		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Extension Activities:								
Foreign Agricultural Service:								
Salary, Benefits and Operating Expenses for Detailee	-	-	8	-	-	-	-	-
Animal and Plant Health Inspection Service:								
Food and Nutrition Service:				-	-	-	-	-
Study SNAP-Ed Activities	300	-	-	-	-	-	-	-
Other Anticipated Reimbursements:	-	-	-	-	2,000	-	2,000	-
Subtotal, Extension Other USDA Appropriations	300	-	8	-	2,000	-	2,000	-
Total, NIFA Other USDA Appropriations	10,128	-	4,470	-	6,462	-	6,462	-
Other Federal Funds:								
Research and Education Activities:								
US Air Force:								
US Army Strong Bonds Initiative	-	-	1,100		-		-	-
Army Corps of Engineers:								
Economics & Mgmt. of Multifunction Water Resources Projects	445	-	-	-	-	-	-	-
Role of Internet in Knowledge Transfer in Outdoor Recreations	13	-	-	-	-	-	-	-
Web-based Recreation Area/Facilities Asset Management System	-		220					
FAP	-	-	1,327	-	-	-	-	-
Department of Commerce:					-			
Support of National Trends Network	242	-	-	-	-	-	-	-
NOAA National Atmospheric Deposition Program	-	-	224	-		-		-
Department of Defense:								
EFMP Benchmark Study	320	-	-	-	-	-	-	-
Family Advocacy Program	1,241	-	-	-	-	-	-	-
Healthy Base Initiative Measurement & Evaluation Strategy	-	-	550	-	-	-	-	-
MEDICAID Tech Assistance	-	-	50	-	-	-	-	-
EFMP Clearinghouse Family Support Provider Survey	-		33	-	-	-		
Support for Military Student During Parental Absence	300	-	-	-	-	-	-	-
Traumatic Brain Injury	1,006	-	1,417	-	-	-	-	-
Environmental Protection Agency:								
NOAA National Atmospheric Deposition Program	434	-	489	-	-	-	-	-
Department of Human Service:								
Foreign Animal Disease Countermeasure Program	-	-	12		-	-	-	-
Department of Interior:								
Geological Survey, National Atmospheric Deposition Program	640	-	642	-	-	-	-	-
National Park Service, National Atmospheric Deposition Program	386	-	408	-	-	-	-	-
Bureau of Land Management, National Trends Network	56	-	56	-	-	-	-	-
Department of Treasury:								
Salary, Benefits, and Operating Expenses for Detailees	6		-		-	-	-	-
Tennessee Valley Authority:								
Support of National Trends Network	27	-	27	-	-	-	-	-
Other Anticipated Reimbursements	-	-	-	-	5,538	-	5,538	-
Subtotal, Res./Educ. Other Federal Funds	5,116	-	6,555	-	5,538	-	5,538	-
Other Federal Funds:								
Extension Activities:								
Department of Defense:								
Army Reserve Family Program	-	-	1,000		-	-	-	-
Army Substance Abuse Program, Ft-Hood	62	-	38	-	-	-	-	-
Army Substance Abuse Education	141	-	-	-	-	-	-	-
Autism Review Phase 3	429	-	-	-	500	-	500	-
AZ Reach	550	-	-	-	1,500	-	1,500	-
Air Force 4-H Program	400	-	-	-	1,000	-	1,000	-
4-H Military Partnership Project	1,233	-	1,800	-	500	-	500	-
4-H Military Youth Program	-	-	-	-	-	-		-
Army Youth Development Program	500	-	500	-	-	-	-	-

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Available Funds and Staff Years (SYs)

(Dollars in thousands)

Item	2012 Actual		2013 Actual		2014 Estimate		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Community Capacity Building Project	1,210	-	-	-	-	-	-	-
Community Info Service/Survivor Outreach Program, Ft. Hood	41	-	-	-	500	-	500	-
Community Early Monitoring & Warning System Behavior Health	-	-	3,000	-	-	-	-	-
Child Care Curriculum Project	-	-	5,000	-	-	-	-	-
Clearinghouse for Military Family Readiness	1,100	-	2,510	-	1,000	-	1,000	-
Continuation of Military Extension Internship Program	-	-	550					
Extension Activities:								
Comprehensive Solider Fit Trainer	-	-	52	-	-	-	-	-
Deployment Support Camp	-	-	550	-	-		-	-
Evidence Based Programming	294	-	-	-	-	-	-	-
Family Advocacy Program and New Parent Support	1,274	-	-	-	-	-	-	-
Family Life Skills, Fort Bliss (TX AgriLife Extension Services)	1,239	-	1,107	-	-	-	-	-
Family Advocacy for Fort Drum Army Community Services	-	-	569		-	-	-	-
Family Advocacy for Fort Drum Staffing Codes	-	-	256	-	-	-	-	-
Family Life Skills Education Program at Ft. Riley	193	-	-	-	-	-	-	-
Family Advocacy Program	505	-	-	-	-	-	-	-
Family Advocacy Program	-	-	1,375	-	-	-	-	-
FY 12 Yellow Ribbon Program	1,000	-	-	-	-	-	-	-
Internship for Child Care Centers, Purdue	1,100	-	-	-	-	-	-	-
Military Community Life Skills	155	-	-	-	-	-	-	-
Military Family Learning Network eXtension	987	-	1,477	-	-	-	-	-
Project YES	-		1,068		-	-	-	-
Project Military REACH	-	-	990	-	-	-	-	-
Relocation Assistance Program	135	-	109	-	-	-	-	-
Risk Reduction and Suicide Prevention	141	-	-	-	-	-	-	-
Special Needs Camps	770	-	-	-	-	-	-	-
Substance Abuse Program Ft. Sam Houston	-	-	441	-	-	-	-	-
Support of the Substance Abuse Program	263	-	343	-	-	-	-	-
Survivor Outreach Service Program	-	-	-	-	-	-	-	-
Teen Adventure Camps	1,100	-	880	-	-	-	-	-
Virtual Lab School	-	-	1,100	-	-	-	-	-
Department of Health and Human Services:								
Extension Disaster Education Network	-	-	50		-	-	-	-
Education and Outreach for the Health Insurance	-	-	1,375		-	-	-	-
Department of Housing and Urban Development:								
IPM Training to Public Housing Authorities	350	-	300	-	-	-	-	-
Healthy Homes	-	-	80		-			
Department of Interior:								
Fish and Wildlife 4-H Award	-		10		-		-	-
U.S. Department of Navy:								
Child Care Virtual Lab	550	-	435	-	-	-	-	-
Child Abuse Reporting and Identification/Prevention	-	-	165	-	-	-	-	-
4-H Military Partnership Project	1,500	-	1,130	-	-	-	-	-
Project Youth Extension Service	2,200	-	-	-	-	-	-	-
Internship Programs-Child Care Centers	1,100	-	-	-	-	-	-	-
Environmental Protection Agency:					-	-	-	-
Agricultural Water Quality	250	-	-	-	-	-	-	-
Clean Water Act	-	-	-	-	-	-	-	-
Training for Pesticide Applicators	500	-	-	-	-	-	-	-
Healthy Homes and Lead Hazard Control	325	-	-	-	-	-	-	-
Other Anticipated Reimbursements	-	-	-	-	17,000	-	17,000	-
Subtotal, Extension Other Federal Funds	21,597	-	28,260	-	22,000	-	22,000	-
Total, NIFA Other Federal Funds	26,713	-	34,815	-	27,538	-	27,538	-
Total, NIFA Available Funds	1,429,563	405	1,190,425	387	1,694,559	410	1,512,562	410

The Native American Interest Endowment Fund is included in the Research and Education Activities Discretionary Appropriations amount.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Permanent Positions by Grade and Staff Year Summary

Item	2012 Actual Wash. D.C.	2013 Actual Wash. D.C.	2014 Estimate Wash. D.C.	2015 Estimate Wash. D.C.
Senior Executive Service	8	8	8	8
GS-15	76	73	74	74
GS-14	52	55	55	55
GS-13	50	48	57	57
GS-12	69	67	69	69
GS-11	28	26	28	28
GS-10	3	5	5	5
GS-9	35	27	33	33
GS-8	17	13	13	13
GS-7	49	44	46	46
GS-6	13	18	19	19
GS-5	7	7	7	7
GS-4	3	2	2	2
GS-3	4	2	2	2
GS-2	1	0	0	0
Total Permanent Positions	415	395	418	418
Unfilled, EOY	-22	-20	-13	-13
Total, Perm. Full-Time Employment, EOY	393	375	405	405
Staff Year Estimate	405	387	410	410

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Research and Education Activities

The estimates include appropriation language for this item as follows (new language underscored; deleted matter enclosed in brackets):

Research and Education Activities

For payments to agricultural experiment stations, for cooperative forestry and other research, for facilities, and for other expenses, **[**$772,559,000,**]** $837,747,000, which shall be for the purposes, and in the amounts, specified in the table titled "National Institute of Food and Agriculture, Research and Education Activities" [in the explanatory statement described in section 4 (in the matter preceding division A of this consolidation Act)] in the report accompanying this Act: Provided, That funds for research grants for 1994 institutions, education grants for 1890 institutions, [capacity building for non-land grant colleges of agriculture,] the agriculture and food research initiative, [Critical Agricultural Materials Act], veterinary medicine loan repayment, [multicultural scholars, graduate fellowship and institution challenge grants,] the public-private partnerships for Innovation Institutes, and grants management systems shall remain available until expended: Provided further, That each institution eligible to receive funds under the Evans-Allen program receives no less than $1,000,000: Provided further, That funds for education grants for Alaska Native and Native Hawaiian-serving institutions be made available to individual eligible institutions or consortia of eligible institutions with funds awarded equally to each of the States of Alaska and Hawaii: Provided further, That funds for education grants for 1890 institutions shall be made available to institutions eligible to receive funds under 7 U.S.C. 3221 and 3222.

Hispanic-Serving Agricultural Colleges and Universities Endowment Fund

For the Hispanic-Serving Agricultural Colleges and Universities Endowment Fund under section 1456(b) (7 U.S.C. 3243(b)) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977, $10,000,000, to remain available until expended.

Native American Institutions Endowment Fund

For the Native American Institutions Endowment Fund authorized by Public Law 103–382 (7 U.S.C. 301 note), $11,880,000, to remain available until expended.

Explanation of Change

1/ The first change revises the explanatory statement wording to be more general as to apply to any appropriations act.

2/ The second change eliminates language for several line items that are not proposed for 2015, including: Capacity Building for Non-Land Grant Colleges of Agriculture, Critical Agricultural Materials Act, and Multicultural Scholars, Graduate Fellowship and Institution Challenge Grants Program.

3/ The third change adds the language for the public-private partnerships for Innovation Institutes. In line with the December 2012 President's Council of Advisors on Science and Technology Report, the Institutes will focus on emerging challenges to agriculture. These funds will remain available until expended.

4/ The fourth change adds language for the Hispanic-Serving Agricultural Colleges and Universities Endowment Fund. Section 7129 of the Food, Conservation, and Energy Act of 2008, provides for the establishment of an endowment fund for Hispanic-Serving Agricultural College and Universities (HSACU). The Hispanic/Latino community is the fastest growing sector of the American population. This investment in the HSACU is needed to ensure institutions can effectively compete for NIFA competitive grants. This endowment fund for HSACU's will assist in the development of a skilled and marketable student population for employment in the food and agriculture sector from the HSACU. These funds will remain available until expended.

RESEARCH AND EDUCATION ACTIVITIES

Lead-Off Tabular Statement

Budget Estimate, 2015	$837,747,000
2014 Enacted	772,559,000
Change in Appropriation	+65,188,000

RESEARCH AND EDUCATION ACTIVITIES

Summary of Increases and Decreases

(Dollars in thousands)

Program	2012 Actual	2013 Change	2014 Change	2015 Change	2015 Estimate
Discretionary Appropriations:					
Hatch Act	$236,334	-$17,757	$25,124	-	$243,701
McIntire-Stennis Cooperative Forestry	32,934	-2,475	3,502	-	33,961
Evans-Allen Program (1890 Colleges and Tuskegee University)	50,898	-3,824	5,411	-	52,485
Animal Health and Disease (Sec. 1433)	4,000	-301	+301	-$4,000	-
Joe Skeen Institute for Rangeland Management	961	-961	-	-	-
Aquaculture Centers (Sec. 1475)	3,920	-221	+301	-	4,000
Critical Agricultural Materials Act	1,081	-81	+81	-1,081	-
Agriculture and Food Research Initiative	264,470	+11,099	+40,840	+8,591	325,000
Innovation Institutes	-	-	-	+75,000	75,000
Food & Agriculture Resiliency Program for Military Veterans	-	-	-	+2,500	2,500
Sustainable Agriculture	14,471	-1,087	+9,283	-	22,667
Alternative Crops	825	-62	+62	-825	-
Farm Business Management and Benchmarking Program	1,450	-109	+109	-1,450	-
Sun Grant Program	2,200	+112	+188	-2,500	-
Policy Research	4,000	-4,000	-	-	-
Alfalfa and Forage Research Program	-	-	+1,350	-1,350	-
Capacity Building for Non-Land-Grant Colleges of Agriculture	4,500	-338	+338	-4,500	-
1994 Research Program	1,801	-135	+135	-	1,801
Higher Education Programs:					
Fellowship Grants, Challenge Grants and Multicultural Scholars Program	9,000	-676	+676	-9,000	-
Native American Institutions (Equity Grants)	3,335	-251	+355	-	3,439
Hispanic Education Partnership Grants	9,219	-693	+693	-	9,219
Secondary/2-year Post-secondary	900	-68	+68	-900	-
Capacity Building Grants (1890 Institutions)	19,336	-1,453	+1,453	-	19,336
Alaska Native-serving and Native Hawaiian-serving Edu. Grants	3,194	-240	+240	-	3,194
Resident Instruction Grants for Insular Areas	900	-900	-	-	-
Distance Education Grants for Insular Areas	750	-750	-	-	-
Grants for Insular Areas	-	+1,526	+274	-	1,800
Veterinary Medical Services Act	4,790	-360	+360	-	4,790

Program	2012 Actual	2013 Change	2014 Change	2015 Change	2015 Estimate
Federal Administration:					
Electronic Grants Administration System	2,000	-2,000	-	-	-
Data Information System (REEIS)	2,600	-2,600	-	-	-
Grants Management Systems	-	+7,242	+588	+2,000	9,830
Decentralized GSA and Security Payments	-	-	-	+5,960	5,960
General Administration	5,900	+18	+385	-557	5,746
Special Research Grants					
Global Change, UV-B monitoring	1,300	-1	+106	-	1,405
Other Special Research Grants	2,700	+75	-75	-2,700	-
Improved Pest Control:					
Expert IPM Decision Support System	153	-11	-142	-	-
Integrated Pest Management	2,362	-177	-2,185	-	-
Minor Crop Pest Management (IR-4)	11,913	-895	895	-	11,913
Pest Management Alternatives	1,402	-105	-1,297	-	-
Total, Research and Education Activities	705,599	-22,459	+89,419	+65,188	837,747
Endowment Funds:					
Native American Institutions Endowment Interest Fund	(4,722)	(224)	(139)	(-59)	(5,026)
Hispanic -Serving Ag. Colleges and Universities Endowment Fund	-	-	-	10,000	10,000
Native American Institutions Endowment Fund	11,880	-	-	-	11,880
Total Endowment Funds	11,880	-	-	10,000	21,880
Total	717,479	-22,459	+89,419	+75,188	859,627

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
RESEARCH AND EDUCATION

Project Statement

Appropriations Detail and Staff Years (SYs)
(Dollars in Thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Hatch Act	$236,334		$218,577		$243,701		-		$243,701	
Cooperative Forestry Research Program	32,934		30,459		33,961		-		33,961	
Payments to 1890 Colleges and Tuskegee University	50,898		47,074		52,485		-		52,485	
Animal Health and Disease Research, Section 1433	4,000		3,699		4,000		-4,000		-	
Special Research Grants:										
Other Special Research Grants	2,700		2,775		2,700		-2,700		-	
Global Change, UV-Monitoring	1,300		1,299		1,405		-		1,405	
Total Special Research Grants	4,000		4,074		4,105		-2,700		1,405	
Improved Pest Control:										
Expert IPM Decision Supp. System	153		142		-		-		-	
Integrated Pest Management	2,362		2,185		-		-		-	
Minor Crop Pest Mgmt, IR-4	11,913		11,018		11,913		-		11,913	
Pest Management Alternatives	1,402		1,297		-		-		-	
Total Improved Pest Control	15,830		14,642		11,913		-		11,913	
Innovation Institutes	-		-		-		75,000		75,000	
Critical Agricultural Materials Act of 1984	1,081		1,000		1,081		-1,081		-	
Alfalfa Forage and Range Program	-		-		1,350		-1,350		-	
Food/AG. Resiliency for Military Vets	-		-		-		2,500		2,500	
Aquaculture Centers, Section 1475	3,920		3,699		4,000		-		4,000	
Sustainable Agriculture	14,471		13,384		22,667		-		22,667	
1994 Research Program	1,801		1,666		1,801		-		1,801	
Supplemental and Alternative Crops, Section 1473D	825		763		825		-825		-	
Capacity Building for Non-Land Grant Colleges of Agriculture	4,500		4,162		4,500		-4,500		-	
Agriculture and Food Research Initiative (formerly NRI)	264,470		275,569		316,409		8,591		325,000	
Farm Business Management and Benchmarking Program	1,450		1,341		1,450		-1,450		-	
Policy Research	4,000		-		-		-		-	
Sun Grant Program	2,200		2,312		2,500		-2,500		-	
Joe Skeen Institute for Rangeland Restoration, NM, TX, MT	961		-		-		-		-	

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
RESEARCH AND EDUCATION

Project Statement

Appropriations Detail and Staff Years (SYs)
(Dollars in Thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Federal Administration (direct appropriation)										
REEIS	2,600		-		-		-		-	
Grants Management Systems	-		7,242		7,830		2,000		9,830	
Electronic Grants Administration System	2,000		-		-		-		-	
Other General Administration	5,900		5,918		6,303		5,403		11,706	
Total Federal Administration	10,500		13,160		14,133		7,403		21,536	
Higher Education:										
Inst. Challenge, Multicultural Scholars, and Graduate Fellowship Grants	9,000		8,324		9,000		-9,000		-	
1890 Institution Capacity Building Grants	19,336		17,883		19,336		-		19,336	
Hispanic Serving Institutions Education Education Grants Program	9,219		8,526		9,219		-		9,219	
Tribal Colleges Education Equity Grants Program	3,335		3,084		3,439		-		3,439	
Secondary/2-Year Post Secondary	900		832		900		-900		-	
Veterinary Medical Services Act	4,790		4,430		4,790		-		4,790	
Alaska Native-serving and Native Hawaiian-Serving Institutions	3,194		2,954		3,194		-		3,194	
Grants for Insular Areas	-		1,526		1,800		-		1,800	
Resident Instruction Grants for Insular Areas	900		-		-		-		-	
Distance Education Grants for Insular Areas	750		-		-		-		-	
Total Higher Education Grants	51,424		47,559		51,678		-9,900		41,778	
Subtotal Appropriation	705,599		683,140		772,559		+65,188		837,747	
Endowment Funds										
Native American Institutions Endowment Fund	(11,880)		(11,880)		(11,880)		-		(11,880)	
Native American Institutions Endowment Interest Earned	4,722		4,946		5,085		-59		5,026	
Hispanic Serving Agricultural Colleges and Universities	-		-		-		(10,000)		(10,000)	
	-		-		-		-		-	
Total Endowment Fund	4,722		4,946		5,085		-59		5,026	
Total Adjusted Appropriation	710,321		688,086		777,644		+65,129		842,773	
Rescissions,Transfers, and Seq. (Net)	-		55,758		-		-		-	
Total Appropriation	710,321		743,844		777,644		+65,129		842,773	
Rescission	-		-20,002		-		-		-	
Sequestration	-		-35,756		-		-		-	
Transfer In (Congressional Relations)	59		54		-		-		-	
Balance Available, Start of Year	178,933		197,767		234,110		-234,110		-	
Recoveries, Other (Net)	28,735		30,571		-		-		-	
Total Available	918,048		916,478		1,011,754		-168,981		842,773	
Lapsing Balances	-229		-2,160		-		-		-	
Balance Available, End of Year	-197,767		-234,110		-		-		-	
Total Obligations	720,052	242	680,208	233	1,011,754	247	-168,981		842,773	247

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
RESEARCH AND EDUCATION
Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in Thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Hatch Act	$222,570		$216,417		$243,701		-		$243,701	
Cooperative Forestry Research Program	32,934		30,459		33,961		-		33,961	
Payments to 1890 Colleges and Tuskegee University	50,898		47,074		52,485		-		52,485	
Animal Health and Disease Research, Section 1433	4,000		3,699		4,000		-4,000		-	
Special Research Grants:										
Other Special Research Grants	2,700		2,775		2,700		-2,700		-	
Global Change, UV-Monitoring	1,300		1,299		1,405		-		1,405	
Total Special Research Grants	4,000		4,074		4,105		-2,700		1,405	
Improved Pest Control										
Expert IPM Decision Supp. System	153		142		-		-		-	
Integrated Pest Management	2,362		2,185		-		-		-	
Minor Crop Pest Mgmt, IR-4	11,913		11,018		11,913		-		11,913	
Pest Management Alternatives	1,402		1,297		-		-		-	
Total Improved Pest Control	15,830		14,642		11,913		-		11,913	
Innovation Institutes	-		-		-		+75,000		75,000	
Food/Ag. Resiliency for Military Vets	-		-		-		+2,500		2,500	
Critical Agricultural Materials Act of 1984	1,091		1,981		1,119		-1,119		-	
Alfalfa Forage and Range Program	-		-		1,350		-1,350		-	
Aquaculture Centers, Section 1475	3,920		3,699		4,000		-		4,000	
Sustainable Agriculture	14,471		13,384		22,667		-		22,667	
1994 Research Program	1,968		1,366		2,645		-844		1,801	
Supplemental and Alternative Crops, Section 1473D	825		763		825		-825		-	
Capacity Building for Non-Land Grant Colleges of Agriculture	4,500		4,162		4,500		-4,500		-	
Agriculture and Food Research Initiative	283,593		270,383		530,018		-205,018		325,000	
Farm Business Management and Benchmarking Program	1,450		1,341		1,450		-1,450		-	
Policy Research	4,000		-		-		-		-	
Sun Grant Program	2,200		2,312		2,500		-2,500		-	
Joe Skeen Institute for Rangeland Restoration	961		-		-		-		-	
Federal Administration (direct REEIS	2,600		-		-		-		-	
Grants Management Systems	-		7,242		10,360		-530		9,830	
Electronic Grants Administration System	2,000		-		-		-		-	
Other General Administration	5,900		5,918		6,303		+5,403		11,706	
Total Federal Administration	10,500		13,160		16,663		+4,873		21,536	

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
RESEARCH AND EDUCATION
Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in Thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Higher Education:										
Inst. Challenge, Multicultural Scholars, and Graduate Fellowship Grants	9,784		8,683		13,933		-13,933		-	
1890 Institution Capacity Building Grants	22,147		18,225		20,053		-717		19,336	
Hispanic Serving Institutions Education Grants Program	9,219		8,526		9,219		-		9,219	
Tribal Colleges Education Equity Grants Program	3,335		3,084		3,439		-		3,439	
Secondary/2-Year Post Secondary	900		832		900		-900		-	
Veterinary Medical Services Act	5,390		251		8,969		-4,179		4,790	
Alaska Native-serving and Native Hawaiian-Serving Institutions	3,194		2,954		3,194		-		3,194	
Grants for Insular Areas	-		1,526		1,800		-		1,800	
Resident Instruction Grants for Insular Areas	900		-		-		-		-	
Distance Education Grants for Insular Areas	750		-		-		-		-	
Carryover	-		-		-		-		-	
Total Higher Education Grants	55,619		44,081		61,507		-19,729		41,778	
Subtotal	715,330		672,997		999,409		-161,662		837,747	
Endowment Funds										
Native American Institutions Endowment Fund	(11,880)		(11,880)		(11,880)		-		(11,880)	
Hispanic Serving Agricultural Colleges and Endowment Fund	-		-		-		-		-	
Native American Institutions Endowment - Interest Earned	4,722		7,211		5,085		-59		5,026	
Carryover	-		-		7,260		-7,260		-	
Hispanic Serving Agricultural Colleges and Universities	-		-		-		(10,000)		(10,000)	
Total Endowment Fund	4,722		7,211		12,345		-7,319		5,026	
Total Obligations	720,052		680,208		1,011,754		(168,981)		842,773	
Lapsing Balances	229		2,160		-		-		-	
Balance Available, End of Year	197,767		234,110		-		-		-	
Total Available	918,048		916,478		1,011,754		-168,981		842,773	
Transfers In (Congressional Relations)	-59		-54		-		-		-	
Recoveries, Other (Net)	-28,735		-30,571		-		-		-	
Rescission	-		20,002		-		-		-	
Sequestration	-		35,756		-		-		-	
Balance Available, Start of Year	-178,933		-197,767		-234,110		-		-	
Total Appropriation	710,321	242	743,844	233	777,644	247	-168,981		842,773	247

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Justification of Increases and Decreases

NIFA research, education, and extension activities support all USDA Strategic Goals.

The activities also support the USDA Research, Education and Economics Mission Area Action Plan goals. Goals include:

- Goal 1. Local and Global Food Supply and Security;
- Goal 2. Responding to Climate and Energy Needs;
- Goal 3. Sustainable Use of Natural Resources;
- Goal 4. Nutrition and Childhood Obesity;
- Goal 5. Food Safety;
- Goal 6. Education and Science Literacy; and
- Goal 7. Rural Prosperity/Rural-Urban Interdependence.

RESEARCH AND EDUCATION ACTIVITIES

1. An increase of $8,591,000 for Agriculture and Food Research Initiative (AFRI) ($316,409,000 available in 2014) as follows:

   The AFRI program supports research, education, and extension according to priorities articulated in the 2008 and 2014 Farm Bills, including plant health, production, and plant products; animal health, production, and animal products; food safety, nutrition, and health; bioenergy, natural resources, and environment; agriculture systems and technology; and agriculture economics and rural communities. Foundational science is supported through AFRI's Foundational Program, and focused problem-solving work is supported through six challenge area programs. The challenge area programs include Food Security; Water for Agriculture; Climate Variability and Change; Sustainable Bioenergy Production; Childhood Obesity Prevention; and Food Safety. Additional high priority science is supported in collaboration with other federal science agencies. The NIFA Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative will develop the next generation of research, education, and extension professionals in the food and agricultural sciences. In addition, NIFA's AFRI and Capacity programs are in line with the Office of Management and Budget (OMB) and Office of Science and Technology (OSTP) guidance for FY 2015 budget priorities including those for clean energy and global climate change.

   Food Security Challenge Area:

   Base funding for the AFRI Food Security Challenge Area will support ongoing research, education, and extension programs focused on adaptation to and mitigation of climate impacts on food production; translational genomics to improve disease resistance and improve fertility in animals; minimize crop diseases due to fungal pathogens, improve management of plant pathogens vectored by arthropods and nematodes; enhance implementation of integrated pest management; reduce crop and livestock losses due to pests and diseases; and support sustainable food systems to improve food security. Increased funding will support additional agricultural production research, education, and extension to develop more sustainable, productive and economically viable plant and animal production systems. These investments will increase food security by strengthening production capacity and capabilities at the local, regional and national levels, and by encouraging diversification of agricultural production. This work will contribute to global food security through collaborations with the Feed the Future initiative, to local and regional marketing through the Know Your Farmer, Know Your Food (KYF) initiative, and to the U.S. Food Waste Challenge through the USDA Sustainable Development Council.

Water for Agriculture Challenge Area:

Agriculture, across the value chain, is the greatest consumptive user of water resources in the United States and around the world. Perhaps the greatest challenge facing agricultural producers will be adapting water management to an increasingly variable climate, extreme weather conditions, and frequent occurrence of droughts. The development of new science and technologies focused on widening the array of choices for conserving water and sustaining water quality at multiple scales is needed. This new science would evaluate how knowledge and technology, incentives, and policies help to promote appropriate decision-making. The Water for Agriculture Challenge Area will provide funding to support critical topics in water resources research, education and extension that: 1) result in tools available to farmers, livestock producers, and natural resource managers to mitigate the impact of extreme weather, droughts, and climate change on crops, forest, and livestock production systems; 2)will lead to solutions for U.S. water challenges related to the production of food, fiber, fuel and other agricultural goods and services; 3) will be used to develop management practices, technologies, and tools for farmers, ranchers, forest owners and managers, public decision-makers, public and private managers and citizens to improve water resource quantity and quality; and 4) links social, economic, and behavioral sciences with traditional biophysical sciences and engineering to address regional scale issues with shared hydrological processes, and meteorological and basin characteristics. New competitive funding for Water for Agriculture will focus on a better understanding of: 1) the future of supply and demand for water across the agricultural value chain, including the effects of applying nontraditional water (e.g., recycled water) as agricultural irrigation; 2) the increasing effects of climatic variability on water resources by improving drought responsiveness and preparedness; and 3) societal impacts on water resources (e.g., population growth, value for water conservation) including national, regional and local policy that affect water availability.

Climate Variability and Change Challenge Area:

Agricultural and forestry producers, land managers, and other decision-makers need information, technologies, and decision-support tools about greenhouse gas mitigation, adaptation strategies, and policy outcomes. Crop, animal forest, rangeland and even urban and rural management approaches must take climate variability into account to implement adaptation strategies and improve sustainability over the long term. The AFRI Climate Variability and Change Challenge Area will provide opportunities for the development of new scientific knowledge for adaptation to climate variability and change, mitigate atmospheric greenhouse gases, and make this knowledge accessible and usable in decision-making. Increased funding will support critical research on the effects of climate on microbes, pathogens, arthropods, weeds, and other pests which will provide process-level knowledge of the impact of climate on the environmental-microbial matrices and host-pest interactions in food, plants, animals, and aquatic and soil ecosystems.

Base funding will continue to support an integrated research, education, and extension program on adaptation and mitigation strategies for major regional cropping, livestock and forestry production systems. NIFA will continue to collaborate with NSF and DOE on water sustainability and climate. Through the USDA Global Change Task Force, shared objectives and common interests with USDA agencies and offices for agriculture and forestry are accomplished. Federal agency collaborations for climate science take place through the U.S. Global Change Research Program.

Sustainable Bioenergy Production Challenge Area:

Base funding will continue to support NIFA's Sustainable Bioenergy portfolio that focuses on the societal challenge to secure America's energy future with high relevance to the development of sustainable regional feedstock systems for the production of bioenergy and bio-based products. The program is designed to achieve the long-term outcome of reducing U.S. dependence on fossil fuels and meet the Energy Independence and Security Act. This will be accomplished through the production of sustainable bioenergy in regional systems that materially deliver liquid transportation biofuels. In addition, NIFA will collaborate with the Department of Energy's Office of Science to explore feedstock genomics.

Food Safety Challenge Area:

Increased funding for the AFRI Food Safety Challenge Area will support a program in research, education, and extension to improve the safety of the food supply. The food safety priority supports the Department's goal of ensuring that everyone in America has access to safe, nutritious, and balanced meals. Funding will continue to focus on minimizing antibiotic resistance transmission through the food chain, as well as minimizing microbial food safety hazards of fresh and fresh-cut fruits and vegetables. Funding also will support new grants to: 1) advance investigator-driven integrated research to solve complex food safety challenges in fruits and vegetables and in animal food systems; 2) amplify applied research that advances education, outreach , training and certifications for traditional and non-traditional food safety audiences that include both industry and consumers; 3) expand and improve strategies for developing and implementing new processing technologies that enhance food quality and food safety; and 4) integrate nutrition and food safety efforts to create a healthier food supply. Base funding will support ongoing research, education, and extension focused on promoting safe handling and good agricultural practices. This work will be complementary to, but not duplicative of, other Federal food safety initiatives.

Childhood Obesity Prevention Challenge Area:

Funding for the Childhood Obesity Prevention Challenge Area addresses the priority of childhood obesity prevention. Obesity is the number one health problem in America. According to the National Health and Nutrition Examination Survey administered by the U.S. Center for Disease Control and Prevention, prevalence rates for overweight and obesity in children and adolescents have tripled in the past 30 years. In 2009-2010, almost 17 percent of children and adolescents aged 2-19 years were obese. Low income children and adolescents are more likely to be obese than their higher income counterparts, but the relationship is not consistent across race and ethnicity groups. This program will focus on populations of greatest risk including populations eligible for USDA nutrition education and food assistance programs, the Supplemental Nutrition Assistance Program, and child nutrition programs. Base funding will continue to support programs focused on access to healthy nutritious food, and food and physical activity environments in communities of greatest need.

After decades on the rise, childhood obesity rates among low income children have recently leveled off or have actually declined slightly in 18 states and the U.S. Virgin Islands. Multi-functional integrated research, education and extension projects supported by the AFRI Childhood Obesity Prevention Program has contributed to this national trend by identifying food consumption behaviors contributing to obesity and subsequent education and extension programming to modify this behavior.

Foundational Program:

Plant Health and Production and Plant Products: This program area supports fundamental and applied research to understand plant biology at the molecular, cellular and whole-plant levels, which is critical for dealing with the impacts of extreme weather, drought, and climate variability. It also supports innovative and environmentally sound approaches to improve plants and protect them from abiotic and biotic stresses, including microbial pathogens, weeds, nematodes, insects, and other arthropods, and various other invertebrate pests. It also will support the President's Pollinator Initiative, building on AFRI's investments in research on pollinators and colony collapse disorder of $18.6 million since its inception in FY 2009, including $5.0 million in FY 2012 and $4.9 million in FY 2013.

Animal Health and Production and Animal Products: This program area supports work to understand the critical biological and physiological mechanisms underlying nutrition, growth, reproduction, and health in livestock, poultry, equine, and aquaculture species. Research at the genetic, genomic, molecular, cellular, organ systems and whole-animal levels is supported. This work expands our knowledge using basic and applied research to reduce production and health costs, enhance nutritional quality of animal products, and minimize environmental impacts. This information is used to develop better management strategies for both conventional and organic production systems to improve production efficiency, enhance animal

health, facilitate adaptation of animal systems to biotic and abiotic stressors, including drought, extreme weather and climate change, and develop improved animal products for human use.

Food Safety, Nutrition, and Health: This program area provides science-based knowledge that informs decisions and policies, thus contributing to a healthier, safer, and more affordable food supply. This program supports research on food safety and food quality, while addressing food science and technology issues that impact the safety of food and food ingredients. Critical and emerging issues in food safety are also addressed, thus reducing the impact of potential foodborne hazards. To address nutrition challenges, knowledge of dietary reference intakes and upper tolerable limits, gut biology, nutrigenomics, microbiomics, and the bioavailability of proven bioactive components in foods is integral to formulating nutritious and healthy diets. Supporting the formulation of nutritious and healthy diets is the knowledge of chemical, biological and physical characteristics of food and food ingredients. Focus areas include: 1) conventional foods with bioactive components that are identified and linked to positive health outcomes; and 2) fortified or enhanced foods specifically designed to reduce disease risk. Generating and applying the knowledge needed to improve the quality and nutritive value of foods are part of a comprehensive approach to preventing chronic degenerative diseases such as coronary heart and other vascular diseases, cancer, Alzheimer's disease, diabetes, arthritis and obesity.

Bioenergy, Natural Resources, and Environment: This program area supports research on healthy agroecosystems and their underlying natural resources that are essential to the sustained long-term production of agricultural goods and services. Agroecosystems may include crop production systems, animal production systems, and pasture, range and forest lands that are actively managed to provide economic, societal and environmental benefits for individuals, communities, and society at large. Projects funded through this program area contribute user-inspired foundational knowledge needed for sustainable production of agroecosystems while retaining needed ecosystem services.

Agriculture Systems and Technology: This program area emphasizes the interrelationships between agricultural system components to develop the next generation of engineered systems, robotics, products, processes, and technologies. It blends biological, physical, and social sciences leading to sustainable, competitive, and innovative solutions for U.S. and global agriculture and food production, including minimizing loss/utilizing waste and byproducts generated in agricultural and food systems.

Agriculture Economics and Rural Communities: This program area supports projects involving rigorous research and analysis that informs agricultural and related activities in rural areas and to protect the environment, enhance quality of life, and alleviate poverty. Topical areas include the interactions between agriculture, environment and communities in rural areas; consumer behavior and decision-making under uncertainty; and policy design and analysis.

Critical Agricultural Research and Extension (CARE): This program area will support high priority research and extension projects that address critical and emerging needs related to plant and animal production and protection. Funded work will focus on animal production, crop production, crop and animal product quality, and crop and livestock health management. CARE will focus on short-term issues important to agricultural production and emphasize achieving results that can be applied by the producer as quickly as possible following project completion.

Expected outcomes from projects supported through CARE must include rapid answers to critical issues. Grants will focus on critical problems faced by operations of all sizes, including small producers and those implementing innovative production methods.

Exploratory Research: This new program area supports innovative ideas that will lead to quantum leaps in the areas of food security, climate change, environmental quality and natural resources, nutrition, obesity, food safety, strong families and vibrant communities, and thriving youth. This program will provide support for research projects that develop proof of concept for untested novel ideas, especially high risk-high reward work that will lead to a significant change in U.S. agriculture. Within the overall priorities of AFRI, this program area priority focuses on: 1) new and emerging innovative ideas; 2) application of new

knowledge or approaches; 3) tools required to have a paradigm shift in the field; and 4) rapid response to critical issues and similar unanticipated events.

Cross-cutting Inter-Agency Initiatives:

National Robotics Initiative: This inter-agency program is currently offered jointly by NIFA, NIH, NSF, and NASA and seeks to accelerate the development and use of robots that work beside, or cooperatively with, people. In FY 2015, NIFA plans to provide $4.5 million and NIH, NSF, and NASA will provide a combined amount of $40 million.

This program seeks to create field-tested prototypes of new devices and systems, patent disclosures, and patents in addition to knowledge generation. It also will promote infusion of robotics into the K-16 educational curricula for enhanced STEM learning in formal and informal learning environments. Field-testing will demonstrate improvements in agricultural productivity, enhancements to environmental quality, or safety of our food systems. Projects address plant and animal pest management, water quality, farm worker safety, air quality management, ecosystem protection, and crop production efficiency. Agricultural robotics help growers reduce labor costs and inputs of water and chemicals, harvest crops efficiently and safely, and increase productivity while reducing overall costs. It is anticipated that the results from this program will lead to Small Business Innovation Research grant applications and commercial products that contribute to solving societal problems. Increased youth engagement in robotics activities and other technology-related programs can be used to benchmark the success of education efforts.

Ecology and Evolution of Infectious Diseases: This inter-agency program is currently offered jointly by NIFA, NSF, NIH, and the United Kingdom's Biotechnology and Biological Sciences Research Council and supports broad, interdisciplinary research on the ecological, evolutionary, and socio-ecological processes that influence transmission dynamics of infectious diseases of humans (including food-borne illnesses), animals, and plants. In FY 2015, NIFA plans to provide $2.5 million and NSF and NIH will provide a combined amount of $8.5 million.

This program integrates knowledge across disciplines to enhance our ability to predict and control infectious diseases. Models are built and tested to provide decision and policy makers, including industry, with management tools and recommendations to prevent, control, and eradicate priority infectious diseases.

The projects will advance broader impacts beyond the specific disease studied by increasing the understanding of public health, agricultural ecosystem health, natural resource use and wildlife management, climate variability impacts, and/or economic development. Population dynamics and genetics of reservoir species or hosts are included, as are the cultural, social, behavioral, and economic dimensions of disease transmission. Investigators are encouraged to broadly involve the public and plant and animal health research communities.

Phenomics: This is a proposed new inter-agency activity. Phenomics has great potential to solve a variety of complex practical agricultural problems in plants and animals and to advance our understanding of fundamental biological properties.

This initiative, in partnership with DOE, NSF, and NIH, proposes to support the study of an organism's catalogue of phenotypes, also known as the phenome, in a rigorous and formal way and to link these phenotypes to the associated genes and gene variants (alleles). Accordingly, this program will facilitate and encourage communication between application-oriented and discovery-oriented scientists.

Areas of research that will benefit from the phenomics approach include: 1) crop and animal improvement, including expansion of growing areas for species, breeds, or cultivars; 2) carbon sequestration by understanding how organisms and communities interact in response to simple and complex changes in climate; 3) improvement of nutritional quality and stress tolerance of plants and farm animals; and 4) metabolic networks, which are highly interconnected and dynamic.

Dual Purpose with Dual Benefit: Research in Biomedicine and Agriculture Using Agriculturally Important Domestic Animal Species: This inter-agency program is currently offered jointly by NIFA and NIH and seeks to facilitate research that expands strategies to ameliorate human and agricultural animal disease and developmental disorders and improve reproductive efficiency. In FY 2015, NIFA proposes investing $5 million and NIH will provide $5 million.

This program targets funding to focused problem areas of high priority in animal agriculture, human nutrition and food safety that also have direct implications in human health. As such, it yields results that generally have greater impact than most traditional programs at either NIFA or NIH because results are broadly applicable to both agriculture and human health. That is, the benefit of results is essentially doubled compared with programs that target issues relevant to only one segment of society. From NIH's perspective, it broadens their research portfolio beyond the use of traditional laboratory animals by expanding the use of agricultural animals as models for human health. In turn, this benefits NIFA and its relevant stakeholders because results from projects funded by this program are also directly relevant to animal agriculture, human nutrition and food safety. This program supports research that is primarily fundamental in nature and, thus, fills critical gaps in scientific knowledge. This fundamental knowledge is absolutely critical to form the underlying foundation supporting the research, development and application of future therapies and management strategies to improve animal agriculture and enhance human health. An additional benefit of this program is that, during its first three years, 40 percent of NIH awardees were first time Research Project Grant (R01) winners from the animal science and veterinary science community.

Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative:
To maintain U.S. leadership in agriculture and address the challenges of the 21st Century, NIFA proposes continued investments to develop a diverse workforce that contributes to the national food and agricultural system by training the workforce and scientists in food, agriculture, natural resources, and human sciences. Data on current enrollment and degrees granted indicate a continuing lag in the production of a sufficient number and quality of graduates to fulfill agricultural-related workforce needs. NIFA's Food, Agriculture, Natural Resources and Human Science Education and Literacy initiative has the following two goals: 1) promoting research and extension experiential learning for undergraduates such that upon graduation they may enter the agriculture workforce with exceptional skills; and 2) preparing the next generation of scientists through fellowships, including doctoral and post-doctoral fellowships. The experiential learning initiative for undergraduates will provide opportunities for underrepresented students from minority serving institutions, community colleges and other universities to obtain hands-on experience at land-grant and non-land-grant universities and USDA laboratories and obtain training to join the agricultural workforce or pursue graduate studies in food, agriculture, natural resources and the human sciences. This initiative also aligns with the recommendations made in the December 2012 President's Council of Advisors on Science and Technology (PCAST) report to the President on Agricultural Preparedness and the Agriculture Research Enterprise.

AFRI program activities support all REE Action Plan Goals.

2. Sustained support for Hatch Act ($243,701,000 available in 2014) as follows:

Hatch base funds are used to support continuing agricultural research at 1862 Land-Grant Institutions, and, State Agricultural Experiment Stations. Funds appropriated under this section are used to conduct original research, investigations, and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agricultural industry in the United States. It includes research on the problems of agriculture in its broadest aspects, which serve to develop and improve rural communities and to maximize contribution by agriculture to the welfare of the consumer. Much of the research supported with Hatch funds at the state level is not amenable to be supported by competitive grants and funding from private/corporate interests. For example, plant and animal breeding and genetics needs long term, sustainable support provided by Hatch funds, and cannot be sustained on competitive grants. The innovations supported by Hatch Funds help increase farm incomes, improve health, and enhance the quality

of life in local communities and the nation and also enable researchers to become competitive for other sources of funding. Program activities support all the REE Action Plan Goals.

In addition, Hatch funds are supporting work to understand factors that affect pollinator health such as pests, diseases and environmental chemicals which significantly affect commercial beekeeping and pollination operations as well as native pollinators. For example, funded activities showed adverse effects on honey bees when a fungicide known as propiconazole was applied during bloom to control a disease called "mummy berry" in blueberries. Researchers found that propiconazole reduced the lifespan of nurse bees and curtailed development of structures called hypopharyngeal glands in worker bees. These glands make a high protein food which is fed to colony members. To protect bees, Maine blueberry growers are now timing applications of the fungicide prior to bloom when bees are not foraging. Another project in the Northeastern US found that three honey bee viruses, Black Queen Cell Virus, Deformed Wing Virus and Sac brood Virus were also present in bumble bees when collected in cranberry fields in Massachusetts. Investigators are now studying trends in the level of virus infection in different bee species.

3. Sustained support for McIntire-Stennis Cooperative Forestry ($33,961,000 available in 2014) as follows:

McIntire-Stennis base funds are used to assist grantees in carrying out a program of state forestry research at schools and colleges and developing a trained pool of forest scientists capable of conducting needed forestry research, which include: ecological restoration; catastrophe management; valuing and trading ecological services; energy conservation, biomass energy and bio-based materials development; forest fragmentation; carbon sequestration and climate change; and ways of fostering healthy forests and a globally competitive forest resources sector. Similar to the situation with Hatch funds, much of the research supported with McIntire-Stennis funding is not amenable to support from the private sector or competitive grants. McIntire-Stennis base funds are used to support the eight legislated goals described in the Act and funds are distributed to states based on legislated formula. Program activities support REE Action Plan Goal 3.

4. Sustained support for Evans-Allen ($52,485,000 available in 2014) as follows:

Evans-Allen funds are authorized under section 1445 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) and are used to support continuing agricultural research at 1890 Land-Grant Universities, including Tuskegee University and West Virginia State University. Base funds are used for: expenses of conducting agricultural research; printing, disseminating the results of such research; administrative planning and direction; and purchase and rental of land and the construction, acquisition, alteration, or repair of buildings necessary for conducting agricultural research. Because of Evans-Allen funding, for example, researchers at Langston University are developing improved peanut genotypes that are higher yielding and more insect and disease resistant. Similarly, the 1890 and 1862 Land-Grant Universities conduct joint research to enhance profits of small farmers and promote economically viable land-use. These research efforts have led to savings of over $22 million in inputs through the adoption of technology developed through such collaborations. Program activities support all REE Action Plan Goals.

5. Sustained support for Special Grants ($13,318,000 available in 2014) as follows:

   a. Sustained support for Minor Crop Pest Management, IR-4 ($11,913,000 available in 2014) as follows:

   Base funding will support and enhance the capacity of the IR-4 program to assist growers in obtaining registrations of pesticides for use on specialty food crops (fruits, vegetables, nuts, herbs/spices), ornamental horticulture crops and minor uses on major crops, particularly in light of continued loss of effective pesticides and methods of pest control. The program will invest in efforts to register pesticides that are lower risk but effective and economical and to demonstrate this efficacy to potential users. Among the areas for program growth are biopesticides and organics, public health, and global initiatives to harmonize Maximum Residue Levels. The impact of not funding this program would be

a decline and/or loss of effective pest management materials on specialty crops. This program provides an important component in integrated pest management strategies to control economically important pests. Program activities support REE Action Plan Goal 1.

b. Sustained support for Agroclimatology (formerly Global Change, UV-B Monitoring) ($1,405,000 available in 2014) as follows:

The climatological network includes 38 climatological sites: 35 in the U.S., two in Canada, and one in New Zealand. Base funding for the program supports continuous measurement of Ultraviolet B (UV-B) radiation at all sites, analysis on the damaging effects to agriculture, and providing information on the geographical distribution and temporal trends of UV-B radiation in the US. This is a major contribution of USDA to the U.S. Global Change Research Program and provides the only source of UV-B data directly tied to agricultural production systems. Data is used to support climate forecasting models and assessing the impact of UV-B radiation on ecosystems, human heath, and agricultural production. Program activities support REE Action Plan Goal 2.

6. Sustained support for Aquaculture Centers ($4,000,000 available in 2014) as follows:

Base funding will support aquaculture research, development, demonstration, and extension education to enhance viable and profitable U.S. aquaculture production to benefit consumers, producers, service industries, and the American economy. Program activities support REE Action Plan Goal 1.

7. Sustained support for Sustainable Agriculture Research and Education (SARE) Program ($22,667,000 available in 2014) as follows:

Base funding will be used to increase knowledge of and help farmers and ranchers to adopt practices that are profitable, environmentally sound, and good to communities. Grants awarded by the four regional administrative councils will support projects that address crop and livestock production and marketing, stewardship of soil and other natural resources, economics and quality of life. Funding will support development of technical guides and handbooks and education and training for Cooperative Extension System agents, and other agricultural professionals in the university system, the private sector, or other government agencies, involved in the education and transfer of technical information concerning sustainable agriculture.

The SARE program has a 25 year track record of success and enthusiastic stakeholder support from farmers and ranchers, from within the agricultural science community, and among Federal agencies that benefit from the research and education activities that the program supports. The program has far exceeded its targeted performance levels and is actively engaged in a process to significantly improve future program evaluation efforts. Program activities support REE Action Plan Goal 1.

8. Sustained support for 1994 Research Grants ($1,801,000 available in 2014) as follows:

This program assists 1994 Land-Grant Institutions (Tribal Colleges) in building institutional research capacity through competitive funding of applied projects that address student educational needs and solve community, reservation or regional problems. Collaboration with 1862 or 1890 Land Grant Institutions is a requirement. Eligible institutions may propose projects in any discipline of the food and agricultural sciences. The base funding will be leveraged with the technical and research expertise at 1862 and 1890 Land-Grant Universities to enhance economically viable land use, improve food security and promote youth engagement in communities with high rates of poverty. Program activities support all REE Action Plan Goals.

9. An increase of $75,000,000 for public-private partnerships for Innovation Institutes ($0 available in 2014) as follows:

The budget proposes an increase of $75 million to initiate the Innovation Institutes program. In line with a

December 2012 report by the President's Council of Advisors on Science and Technology (PCAST), NIFA proposes funding to establish in FY 2015 three new Institutes, with an investment of $25 million for each Institute.

The PCAST Report recommends the creation of six large, multidisciplinary innovation institutes focused on emerging challenges to agriculture, supported by public-private partnerships. Funding for each Institute will be $25 million per year for no less than 5 years. PCAST recommended the creation of "a new innovation ecosystem for agriculture that leverages the best from different parts of the broad U.S. science and technology enterprise."

Federal investment in the Institutes is expected to invigorate agricultural research and create opportunities for new business ventures funded by the private sector. Funds will support a NIFA-run competitive selection process that leverages public-private partnerships.

The Institutes will be virtual organizations that include multiple partners from academia, the private sector, Federal labs, and others. These public-private partnerships will take advantage of USDA's unique intramural laboratory assets, and provide financial leverage through funds administered by NIFA that would remain available until expended (no-year funds), to allow the fullest flexibility in determining the best use of the funds. As a NIFA competitive program under agreement authorities of 7 U.S.C. 450a, proposals will undergo a rigorous peer review process prior to selection. Funded projects will include unique partnerships that could not be undertaken through existing programs. Selected projects would be reviewed based on criteria established under the NIFA Request for Applications. The new Institutes will be implemented following a consultative process that includes input from stakeholders. The Innovation Institutes will bring together academia, research organizations, and businesses to conduct research that is complex and focused on the major challenges to agriculture in the 21st century.

Pollination and Pollinator Health (PPH). The first Institute, the PPH Innovation Institute, will utilize input from stakeholders to develop priorities for addressing biological, environmental and management issues associated with the wide-scale decline of honey bees and other pollinators nationwide. NIFA proposes to support the generation of evidence-based data to address known and emerging information gaps to mitigate threats to pollinator health. The Institute will foster partnerships between commodity groups that depend on bees to pollinate their crops, beekeepers that produce honey and provide pollination services to crop producers; and with researchers, both public and privately funded, to engage in problem solving that will enable both industries to minimize economic losses and harm to the environment. The Institute will also engage conservation groups to collaborate with relevant government agencies (e.g., other USDA agencies, BLM and DOT) and develop the most effective methods for conservation of native pollinators which are essential pollinator of numerous crops and native plants. Specifically, the initiative will:

- Design and improve research frameworks to estimate direct and indirect economic benefits of honey bees and better quantify ramifications of further declines in honey bee health.
- Increase managed honey bee access to healthy forage which is affordable to landowners. Despite numerous efforts over the past 25 years, the parasitic mite *Varroa destructor* continues to be single most important threat of honey bees in the U.S. The adoption of effective integrated pest management strategies is urgently needed to reduce the Varroa mite below economic thresholds. These will include monitoring for mites, developing novel chemical, genomic and biological control tactics which do not adversely affect honey bees or the environment; and expand tech transfer teams currently funded by NIFA that effectively demonstrate how selective breeding for Varroa mite resistance is lowering colony losses. Queen breeders are beginning to increase their adoption of these methods.
- Understand novel biochemical and genomic mechanisms used by pests and diseases to develop and reproduce in honey bees in order to identify novel targets for control.
- Identify or develop regional or crop specific pesticide Best Management Practices (BMPs) that protect both pollinators and crop production.
- Leverage existing public outreach programs to more effectively educate the next generation of scientists, and expand public awareness about the linkage of pollinators with sustaining our

nation's food supply, as well as involve citizens in efforts to protect pollinators.

Within the $25 million for the PPH Institute, $5 million will be allocated for research on pollinator health, to combat pollinator decline and colony collapse disorder. This investment is part of an effort by USDA and EPA, in consultation with other relevant Federal partners, to scale up efforts to address the decline of honey bee health with a goal of ensuring the recovery of this crucial subject of pollinators. As part of a multi-agency budget proposal, the $5 million investment will support partnerships to:

- Ascertain the causes of colony collapse disorder (CCD) in honey bees and pollinator mortality, and will include development, maintenance and analysis of databases.
- Develop best management practices (BMPs) to alleviate CCD and mortality factors (pathogens, parasites, stress, nutrition, pesticides, genetics).
- Conduct longitudinal studies on the efficacy of BMPs and alternatives.
- Conduct outreach to USDA, EPA, and the private sector.

The pollinator health initiative is coordinated within USDA by the REE mission area. This initiative will support activities identified in the USDA-EPA action plan on CCD and build upon current pollinator research and extension projects. Other USDA agencies involved in this initiative include APHIS, ARS, FSA, NASS, and NRCS, and will be coordinated with EPA. Additional NIFA programs also support research on CCD and related pollinator work, including AFRI, Hatch Act capacity funds, and Extension work funded by Smith-Lever capacity funding.

Manufacturing Innovation. A second Institute will focus on the building of a National Network for Manufacturing Innovation, consisting of regional hubs that will accelerate development and adoption of cutting-edge manufacturing technologies, focused on bio-based product development and manufacturing.

The National Network for Manufacturing Innovation (NNMI) focused on bio-manufacturing and bioproducts development will:

- Establish processes and chemical platforms leading to high-value intermediate and end-use products.
- Support commercialization of products developed from basic and applied research.
- Build domestic capability for ongoing bio-manufacturing and bio-products development.

Basic and applied research on bio-products and bio-energy supported in partnerships with the private industry will help fill the gap in current research efforts.

The Institute will be designed to address the challenge identified by PCAST: *managing the production of bioenergy* (bio-refining and biobased products). Funded projects will achieve short term economic benefits, while building a strong foundation for future basic research. NIFA will consult with other Federal partners including DOE to ensure the NNMI is designed to complement existing efforts.

Anti-microbial Resistance (AMR) Research. The third Institute, the Antimicrobial Resistance Innovation Institute, will address AMR through a systems approach from the farm and farm environment to the consumer and thus engage public health medicine. This systems approach will engage public-private partnerships inclusive of trans-disciplinary teams of research, education, and extension/outreach personnel, animal scientists, veterinarians, microbiologists, entomologists, soil scientists, social and behavioral scientists, engineers, and health-related practitioners — the latter typically excluded from agricultural and complex AMR research related work at the ecosystem level. A one-dimensional intervention approach targeting the food consumed—specifically meat—is inadequate to achieve true mitigation of AMR. The environment including soil, water, wild and domesticated food and non-food animals plays a significant role in the development and occurrence of AMR along the food chain. NIFA proposes to support the generation of evidence-based data to

address known and emerging information gaps to mitigate AMR.

There are also anthropogenic impacts unrelated to antimicrobial use, which must be addressed in any antimicrobial resistance research, education, and extension program. These include, for example:

- Role and impact of biotic and abiotic factors on AMR. For example, how do insects and other arthropods affect transmission of AMR or resistant gene transfer? Do pollutants and contaminants interact with the soil and biota to affect AMR?
- Role and impact of the environment, particularly soil and water, in the transmission, promotion, or suppression of AMR.
- Uptake, fate, and transport of antimicrobials in food crops and subsequent ingestion by animals or human—broadly, the ecology of antimicrobials.

NIFA's support of the tripartite mission of research, education, and extension uniquely positions it to address AMR from development of evidence-based approaches to dissemination and adoption of outputs and outcomes by end users at the local, regional, and national levels.

This proposal is in line with the OMB and OSTP guidance for 2015 R&D priorities to support innovation and commercialization, by promoting public-private partnerships. Program activities support all REE Action Plan Goals.

10. An increase of $2,500,000 for Food and Agriculture Resiliency Program for Military Veterans (FARM-Vets) ($0 available in 2014) as follows:

The proposed FARM-Vets program, authorized by section 502(e) of the Rural Development Act of 1972 (7 U.S.C. 2662(e)), seeks $2,500,000 in new funding to promote competition for basic and applied research that explores career opportunities and pathways, therapeutic interventions, resource conservation, and related studies for the veteran population in the food and agriculture sector. Understanding why and how best to engage veterans in the agricultural sector is congruent with the critical need to identify a new generation of farmers, livestock producers, and entrepreneurs as an aging workforce transitions to retirement, especially in rural areas where shortages are acute. Similarly, there is a limited body of research that points to the therapeutic value of working the land in terms of psychological and behavioral health function and benefit. With increasing numbers of veterans presenting traumatic brain injury and post-traumatic stress as a result of the Iraq and Afghanistan wars, determining and encouraging veterans' motivations for engaging in forestry, hunting, fishing, and other nature-based recreational, wildlife management, and resource conservation activities, could lead to discoveries at the individual, family, and community levels. Further, helping local Extension educators, veteran and military family support personnel, and military and community policy makers understand the impacts of agricultural- and nature-based veteran reintegration efforts would ensure an evidence-based foundation on which program and policy can be built. As a result, NIFA expects FARM-Vets basic and applied research projects to inform the establishment and scalability of educational programming that helps veterans develop farming and ranching skills, business plans, agriculture systems management, knowledge and access to credit, and land use issues. Program activities support REE Action Plan Goal 7.

11. A net increase of $7,403,000 to Federal Administration ($14,133,000 available in 2014) as follows:

    a. An increase of $435,000 for Other Federal Administration ($6,303,000 available in 2014) as follows:

The pay cost increase is $234,000 which includes $56,000 for annualization of the fiscal year 2014 pay raise and $178,000 for the anticipated fiscal year 2015 pay raise. NIFA's programs are managed at the national level by approximately 375 full-time employees at the end of FY 2013 and with a number of temporary and intermittent employees. Grants management includes developing program regulations, establishing broad program goals, reviewing proposals, preparing grant documents, post-award review of progress, and similar activities necessary to achieve program goals. Between 0 and 4 percent of

funds provided for programs may be used to support administration of the programs as established by law.

Funding is needed to support services in connection with the planning and coordination of all research and education programs administered by NIFA. Base funding will provide partial support of pay costs, peer panel, grants administration costs, and grants management and reporting systems. NIFA's budget consists of numerous programs that award thousands of individual grants to colleges and universities and other eligible recipients.

b. An increase of $2,000,000 for Grants Management Systems ($7,830,000 available in 2014) as follows:

This is the third year of a multi-year request to modernize NIFA's grants management systems. CREEMS, the current grants management system was developed nearly 14 years ago. Over the years, NIFA has made updates and revisions to CREEMS, but has not made comprehensive changes to the system, and as a result the technology in use is antiquated. Further complexity has increased and made the system harder to maintain. Interfaces, such as Grants.gov, ASAP (Automated Standard Application for Payment), and FMMI (Financial Management Modernization Initiative), have been added. Internal systems (e.g., CRIS, REEport, REEIS, LMD, POW) developed outside of CREEMS supplement and complement the use of CREEMS data to provide various reporting and processing functions in NIFA. Electronic management of other business practices have been initiated that stand alone (e.g. RFA database, Outcomes database.)

The resulting disjointed technology systems have led to continued reliance on paper and human intervention to move data between systems. Meanwhile, NIFA experiences continual environmental changes in programs, funding, and budget. For example, award continuations have increased over the years, and the size and number of awards have changed.

NIFA also needs a coordinated approach to ensure that the Agency can document in a timely, consistent, and integrated manner the extent of its funding. To do so ready access to content and data, modern systems for processing grants, an agile classification system, and a way to present information through one portal are needed.

NIFA's business of developing requests for applications (RFAs) and formula grant opportunities (FGO) processing and managing grants has adapted to meet those changes, but NIFA's technology systems have not been able to keep pace with those adaptations.

NIFA seeks a technology solution that is paperless and that links the functionality of all business processes associated with NIFA's mission as a federal funding agency for research, education, and extension. This solution allows NIFA staff, applicants, and grantees to track grant proposals and awards throughout the grant life cycle. Also, this solution presents NIFA data, both business management data (how the business operates) and program data (the outcomes and outputs of funded projects), in a transparent and user-friendly method.

NIFA is leveraging Departmental and Federal solutions to meet existing needs. A re-designed web site is being developed in cooperation with the Office of the Chief Information Officer to meet the one Portal concept. NIFA is also leveraging Departmental services for cloud hosting of all NIFA managed business applications to support the transition to future grants management systems.

NIFA recently completed a detailed alternatives analysis and has decided to work to fully leverage the capabilities of NIH. Through NIH, NIFA will be able to modernize its grant processing systems, improve transparency and reporting, with a system that is completely paperless. In 2014, NIFA initiated a comprehensive review of business requirements with NIH to assure that its grant systems are compatible and meet existing business gaps.

The goal of this effort is to enhance automation thereby reducing errors, downtime, and the cost of doing business, and allow more time to invest in grant-making that will find solutions to agricultural problems of high national priority. The current systems and processes used to announce, review, process and award grants are challenging as they rely on antiquated legacy systems that do not fully support the entire grant administration life cycle. As a result workload backs up in the last quarter of the fiscal year as NIFA attempts to process its grants prior to October 1. NIFA aims to substantially streamline year-end grant processing, resulting in several hundred thousand dollars a year in savings. This effort is closely linked with NIFA's signature process improvement initiative to flatten the award curve, and thus streamline the workload of processing grants. Our process improvement efforts drive the need for automation which will improve workflow, reduced error rates, and improve grantee customer satisfaction. NIFA expects to be able to provide federal assistance funding into the hands of grantees 10 percent faster as a result by 2015.

c. An increase of $5,960,000 for Decentralized GSA and Security Payments ($0 available in 2014) as follows:

USDA proposes in FY 2015 the decentralization of GSA Rental Payments and DHS payments. The amount) is the equivalent share of the current GSA Rent and DHS central appropriations based upon current space occupancy across the continental United States. The appropriations request for the central GSA rent account and the DHS payment account have been reduced accordingly.

d. A decrease of $992,000 for operating efficiencies ($0 available in 2014) as follows:

As part of the Governmentwide efforts to promote efficient spending of Federal funds, NIFA will continue to monitor spending on travel, printing, supplies, and equipment and limit these costs when possible. NIFA will reduce agency travel costs by limiting individual staff travel and reducing peer panel costs. One example of reducing costs for peer panel travel includes replacing traditional panels with virtual panels. The printing of materials used for peer panels and other meetings will also be reduced. NIFA supply purchases, print publications, and orders of printed material will be monitored.

Federal administration activities support all REE Action Plan Goals.

12. A decrease of $18,406,000 to eliminate funding for research programs ($18,406,000 available in 2014) as follows:

	FY 2014 ($000)	Increase or Decrease ($000)	FY 2015 ($000)
Animal Health and Disease, Section 1433	$4,000	-$4,000	0
Aquaculture Research Special Grant	1,350	-1,350	0
Potato Research Special Grant	1,350	-1,350	0
Alfalfa Forage and Range Program	1,350	-1,350	0
Critical Agricultural Materials	1,081	-1,081	0
Supplemental and Alternative Crops	825	-825	0
Farm Business Management and Benchmarking Program	1,450	-1,450	0
Sun Grants	2,500	-2,500	0
Capacity Building at Non-Land Grant Colleges	4,500	-4,500	0
Total	18,406	-18,406	0

A decrease is proposed to direct funding to higher priority activities, and is consistent with the Administration's policy to redirect available resources, as appropriate, from lower-priority areas to other science and technology activities. These programs can be supported by other funding sources, including other NIFA programs.

13. A net decrease of $9,900,000 for Higher Education programs ($46,888,000 available in 2014) as follows:

a. A decrease of $9,900,000 for certain higher education programs ($9,900,000 available in 2014) as follows:

	FY 2014 ($000)	Increase or Decrease ($000)	FY 2015 ($000)
Institute Challenge, Multicultural Scholars, and Graduate Fellowship Grants	$9,000	-$9,000	0
Secondary/2-year Post Secondary Education Program	900	-900	0
Total	9,900	-9,900	0

These programs are part of a government-wide initiative to consolidate science, technology, engineering, and mathematics (STEM) programs.

b. Sustained support for 1890 Institution Capacity Building Grants ($19,336,000 available in 2014) as follows:

Base funding is used to strengthen teaching, research and extension programs in the food and agricultural sciences by building the institutional capacities of the eligible 1890 Land-Grant Institutions. The 1890 Institution Capacity Building Grants (CBG) support competitive funding of projects that strengthen teaching programs in the food and agricultural sciences in the need areas of curriculum design and materials development, faculty development, and others. CBG supports projects that strengthen research and extension programs in need areas of studies and experimentation, extension program development support systems, and others. CBG also supports integrated project grants to increase and strengthen food and agriculture sciences at the 1890s through integration of education, research and extension activities. In 2012, as a result of CBG recruitment and retention efforts, 56 underrepresented students enrolled in food and agricultural sciences and 129 students graduated. The projects ending in 2013 had more than 86 partnerships between the 1890 institutions and other universities, federal agencies, business, and organizations, which benefitted more than 2,000 students. Program activities support REE Action Plan Goal 6.

c. Sustained support for Hispanic Serving Institutions Education Grants Program ($9,219,000 available in 2014) as follows:

Base funding for this program promotes and strengthens the ability of Hispanic-Serving Institutions, through competitive funding of food and agriculture science curriculum design and materials development, faculty development, and others, to attract outstanding students and produce graduates capable of enhancing the Nation's food and agricultural scientific and professional work force. Approximately 92 college and Universities have participated in this $9 million program also recruits that promising Hispanic students for food and agriculture science careers, many of which are at USDA. In the 2011-2012 program year, 234 Hispanic students were placed on internships, including 134 at USDA agencies. Currently, the funding success rate is less than 20 percent. This program has the potential address the underrepresentation of Hispanic Students in STEM jobs (less than 2 percent of STEM jobs in the nation) and in the food, agricultural, natural resource, and human sciences. The recently introduced pilot Consortium Grants have been successful and will be expanded to a larger number of institutions. Program activities support REE Action Plan Goal 6.

d. Sustained support for Tribal Colleges Education Equity Grants Program (Payments to the 1994 Institutions) ($3,439,000 available in 2014) as follows:

Base funding for this program provides competitive funding to enhance educational opportunities for Native Americans in the food and agricultural sciences and strengthens institutional capacity to deliver relevant formal education opportunities. To the extent practicable, priority is given to work that supports NIFA’s critical challenge areas: develop sustainable energy, increase global food security, adapt /mitigate agriculture and natural resources to global climate change, reduce childhood and adolescent obesity, and improve food safety. In 2012, approximately 3,895 American Indian Students

benefitted from new curriculum, lab facilities and other classroom improvements supported through this program. In addition, 88 Tribal College Faculty were able to continue their education so they could offer their students more science and mathematics programming. By building the capacity of Tribal College faculty and recruiting and training students for careers in Science, Technology, Engineering, and Mathematics, this program enables the nation to achieve greater diversity in its workforce and increase the competitiveness of US Agriculture. Program activities support REE Action Plan Goal 6.

e. Sustained support for Alaska Native-serving and Native Hawaiian-serving Institutions ($3,194,000 available in 2014) as follows:

Base funding under this program promotes and strengthens the ability of Alaska Native-Serving Institutions and Native Hawaiian-Serving Institutions to carry out education, applied research, and related community development programs through competitive funding of projects within the broadly defined arena of food and agricultural sciences-related disciplines, but with priority given to those projects that enhance educational equity for underrepresented students, strengthen institutional educational capacities, prepare students for careers related to the food, agricultural, and natural resources industries, and human sciences systems of the United States, and maximize the development and use of resources to improve food and agricultural sciences teaching programs. This successful program awards equal amounts to each of the states of Alaska and Hawaii. In 2011-2012 academic year, Student Ambassadors and staff of University of Hawaii at Manoa's College of Tropical Agriculture and Human Resources (CTAHR) Academic and Student Affairs Office made more than 20 presentations on CTAHR's academic programs at various schools, college classes and organizations, reaching roughly 2300 students. In the last five years, more than 15,000 students have been reached through recruitment/outreach efforts. This, in part, has led to a 44 percent increase in undergraduate enrollment in CTAHR over that same period increasing the number of students pursuing agriculture, food, and human sciences degrees. Similarly, enrollment at University of Alaska-Sitka, in classes that were enhanced by NIFA grants, has increased from 52 in academic year 2006/07 to 180 in academic year 2012/13. Program activities support REE Action Plan Goal 6.

f. Sustained support for Grants for Insular Areas ($1,800,000 available in 2014) as follows:

Base funding for this program promotes and strengthens the ability of Insular Area Institutions to carry out education, applied research, and related community development programs through competitive funding of projects within a broadly defined arena of food and agricultural sciences. The program promotes and strengthens the ability of Insular Area Institutions to acquire the equipment, instrumentation, networking capability, hardware and software, digital network technology, and infrastructure necessary to teach students and teachers about technology in the classroom. By strengthening institutional educational capacities in instruction and curriculum, and enhancing the quality of teaching and learning, this program assists Insular Area Institutions to meet their unique needs. Program activities support REE Action Plan Goal 6.

14. An increase of $10,000,000 for the Hispanic-Serving Agricultural Colleges and Universities Endowment Fund ($0 available in 2014) as follows:

Section 7129 of the Food, Conservation, and Energy Act 2008, provides for the establishment of an endowment fund for Hispanic-Serving Agricultural Colleges and Universities (HSACU). The Hispanic/Latino community is the fastest growing sector of the American population.

This investment in the Hispanic-Serving Agricultural Colleges and Universities is needed to ensure the institutions can effectively compete for NIFA competitive grants. This endowment fund will assist in the development of a skilled and marketable student population for employment in the food and agriculture sector from the HSACU. Currently, the Hispanic-Serving Institutions serve 56 percent of all Hispanic students but only receive 66 cents for every dollar going to all other colleges and universities annually, per student, from all Federal funding sources. Furthermore, as Hispanics have historically been under-

represented in such professions as science, technology, engineering and mathematics (STEM), the nation could face serious shortages in many critical professions, including agricultural sciences. Increasing investment in HSACUs will help close this educational attainment gap. The proposed $10 million will remain at Treasury and be invested in Treasury securities, with the cumulative interest provided to the program. Program activities support REE Action Plan Goal 6.

15. Sustained support for Veterinary Medical Services Act ($4,790,000 available in 2014) as follows:

Base funding will help to defray qualifying educational loans of veterinarians in geographical areas that have a shortage of veterinarians; or who are in an area of veterinary practice that the Secretary determines has a shortage of veterinarians, such as food animal medicine, public health, epidemiology, and food safety. Program activities support REE Action Plan Goals 1 and 6.

Opportunity, Growth, and Security Initiative:

In December 2013, the Bipartisan Budget Act of 2013 (BBA) was enacted, which replaced reductions in FY 2013 from sequestration with longer-term reforms. The President's Budget adheres to the BBA's discretionary funding levels for 2015. In addition, the President's FY 2015 Budget Request includes a separate $56 billion Opportunity, Growth, and Security Initiative (OGS Initiative) that is offset with spending reductions and tax reforms. In FY 2015, the OGS Initiative is designed to spur economic progress, promote opportunity, and strengthen national security through additional discretionary investments. Within the OGS Initiative, an additional $60 million is allocated to support AFRI. With these additional funds, NIFA will support new and existing programs on climate change, water resources and drought mitigation, and food security and sustainability.

In the area of climate change, AFRI will support scientific research, extension, and educational projects to provide food security, economic viability, ecosystem goods and services, and create resilient and sustained agroecosystem functions and production under changing climate conditions. These activities will optimize on-farm adaptive capacities and realize greenhouse gas mitigation potentials of food and non-food agricultural systems, through a combination of basic and applied research, and integrated (research, education, and extension) Coordinated Agricultural Projects (CAPs). NIFA's initial focus will be on: 1) enhanced decisions making tools for adaptation of agricultural systems to climate change impacts and enhanced greenhouse gas sequestration; 2) accessibility to agriculturally relevant climate information, science and technology based innovations, and useable breeding and genomic products; and 3) outreach and education to translate, deliver and operationalize climate change adaptation and mitigation science.

In the area of water resources and drought mitigation, NIFA will support research on coupled climate-agricultural modeling capabilities to more accurately predict and determine the extent of drought on agricultural production systems. This includes the adoption of new climate models to agricultural production systems resulting in decision making tools for the selection and use of better crop varieties, animal breeds, and water resource best management practices to adapt to drought conditions and high temperatures. NIFA will also support the systems and mechanisms developed to provide science-based information for producers and resource managers, and increase accessibility, usability and outreach of data products, tools and analyses for resiliency and risk management.

New funding in food security and sustainability will support integrated research, education and extension grants on genetics, genomics and breeding of economically important (or potentially important), but comparatively understudied and underfunded crops. Investments in improving both understudied established crops and promising new crops will yield dividends in productivity, sustainability, and diversification of American agriculture as well as resilience in the face of climate change and the associated rise in pests, invasive plants and weeds. Funding will be invested in basic and applied science needed to better understand the connection between climate change and the range expansion of agriculturally-important pests, as well as impacts on pollination and pollinator health. This work will enhance our understanding of the interface of aero-biology and climate science, and will lead to the development of improved pest forecasting and modeling systems needed to detect pest-range expansion, and decision

support systems needed for effective management of pests and pollinators. Additional funds also will be used to better understand the mechanisms and limits of animal adaptation to environmental stress in light of continuing uncertainty over the extent of pending climate change. Stress from environmental change (e.g., heat, cold, and drought extremes) not only directly impacts animal health and viability but also indirectly affects animals through alterations in the habitable ranges for pathogens or parasites, changes in the available forage quality or composition, or alterations in other factors critical to health and survival. In addition, there is a real and pressing need for a better understanding of how regional changes in biotic and abiotic factors affect animal populations and performance to predict emerging diseases and pests, especially the time required to develop a response that includes effective risk management, disaster resiliency, and recovery processes.

New funding is also proposed under the President's new OGI Initiative for competitive grants to support regional challenges pertaining to food security, water and climate change, nutrition, and obesity. This new competitive portions of the Hatch capacity grant ($15 million) and the Evans-Allen capacity grant ($5 million) will be offered as nationally-awarded competitive research grants (outcomes of which must benefit two or more States and involve cooperation and collaboration at two or more Land-Grant Universities eligible to receive these grants).

SMALL BUSINESS INNOVATION RESEARCH PROGRAM

The Small Business Innovation Development Act (SBIR), Public Law 97-219, July 22, 1982, as amended by Public Law 99-443, October 6, 1986, was designed to strengthen the role of small, innovative firms in Federally funded research and development. Under this program, small firms receive a fixed minimum percentage of research and development awards made by Federal agencies with sizable research and development budgets. The Small Business Research and Development Enhancement Act of 1992 (Public Law 102-564, October 28, 1991) as amended mandates that 2.7 percent for FY 2013, 2.8 percent for FY 2014, and 2.9 percent for FY 2015 for extramural research and development funds within the Department be set-aside and used to fund the SBIR program.

Agency	FY 2013 Actual	FY 2014 Estimate	FY 2015 Estimate
Agricultural Research Service	$1,030,709	$ 1,246,202	$ 1,124,530
Animal and Plant Health Inspection Service	23,095	30,558	31,650
National Institute of Food and Agriculture.	16,389,577	19,405,303	22,047,697
Economic Research Service.....	92,772	148,232	148,567
Foreign Agricultural Service …….	4,459	15,769	16,332
Forest Service	850,090	751,079	777,904
National Agricultural Statistics Service	17,232	16,595	17,400
Total	$18,407,934	$21,613,738	$24,164,080

The staff functions of USDA's SBIR program (solicitation, review and evaluation of proposals) have been centralized in NIFA in order to serve the SBIR community most effectively and efficiently. Nine research topic areas have been established:

1. Forests and Related Resources. Research proposals are solicited to develop environmentally sound techniques to increase productivity of forest land and to increase the utilization of materials and resources from forest lands.

2. Plant Production and Protection. Research proposals are solicited that employ either biological or engineering approaches to examine means of enhancing crop production by reducing the impact of destructive agents, developing effective crop systems that are economically and environmentally sound, enhancing the impact of new methods of plant manipulation, and developing new crop plants and new uses for existing crops.

3. Animal Production and Protection. Research proposals are solicited to find ways to enable producers of food animals to increase production efficiency and to assure a reliable and safe supply of animal protein and other animal products while conserving resources and reducing production costs.

4. Air, Water and Soils. Research proposals are solicited to develop technologies for conserving air, water and soil resources while sustaining agricultural productivity.

5. Food Science and Nutrition. Research proposals are solicited to develop new knowledge and a better understanding of the characteristics of foods and their nutritional impact; to apply new knowledge to improve our foods and diets; and to apply new knowledge to the production of useful new food products, processes, materials, and systems, including the application of nutritional information to consumer foods and food service systems.

6. Rural and Community Development. Research proposals are solicited to develop knowledge and technology that will promote, foster, or improve the well-being of rural Americans.

7. Aquaculture. Research proposals are solicited to develop new technologies to promote the aquaculture production of animal and plant species in both freshwater and marine environments.

8. Biofuels and Biobased Products. Research proposals are solicited to develop new or improved technologies that will lead to increased production of industrial products from agricultural materials.

9. Small and Mid-Size Farms. Research proposals are solicited that will promote and improve the sustainability and profitability of small and mid-sized farms and ranches.

TABLE 1 - FISCAL YEAR 2013
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS

STATE	HATCH ACT AS AMENDED			COOP	1890 UNIV	ANIMAL	SPECIAL	COMPETITIVE	HIGHER	FED ADMIN	TOTAL
	HATCH FORMULA	REGIONAL RESEARCH	TOTAL	FORESTRY RSH (MS)	& TUSK UNIV (EA)	HEALTH & DIS RSCH	AND OTHER GRANTS	RESEARCH GRANTS	EDUCATION GRANTS	DIRECT APPROP	FEDERAL FUNDS
ALABAMA	3,555,289	1,071,935	4,627,224	980,573	4,829,399	67,275	0	2,093,682	2,948,313	0	15,546,466
ALASKA	970,562	173,156	1,143,718	557,604	0	0	0	374,888	1,513,053	0	3,589,263
AMER SAMOA	806,007	26,286	832,293	42,686	0	0	0	0	0	0	874,979
ARIZONA	1,364,323	915,554	2,279,877	373,704		38,725	0	1,049,872	198,994	0	3,941,172
ARKANSAS	3,028,883	882,482	3,911,365	851,843	2,088,859	72,395	0	1,414,159	0	0	8,338,621
CALIFORNIA	4,200,200	1,985,959	6,186,159	759,894	0	181,823	3,413,370	19,089,597	2,624,105	0	32,254,948
COLORADO	1,900,910	1,245,174	3,146,084	373,704	0	285,768	1,549,918	4,474,966	141,689	0	9,972,129
CONNECTICUT	1,465,624	597,612	2,063,236	336,925	0	18,613	0	728,385	0	0	3,147,159
DELAWARE	1,039,473	447,039	1,486,512	189,805	1,170,883	16,052	0	4,345,140	1,502,257	0	8,710,649
DISTRICT OF COLUMBIA	681,260	129,062	810,322	0	0	0	0	18,000	0	0	828,322
FLORIDA	2,694,505	890,418	3,584,923	759,895	1,911,033	42,827	2,808,803	10,350,198	1,864,696	0	21,322,375
GEORGIA	4,035,216	1,543,310	5,578,526	1,017,353	2,774,620	106,102	3,301,765	3,379,165	1,653,921	0	17,811,452
GUAM	842,630	148,264	990,894	42,686	0	0	0	0	0	0	1,033,580
HAWAII	1,021,964	464,270	1,486,234	226,585	0	1,358	823,341	10,593,919	1,413,555	0	14,544,992
IDAHO	1,747,425	721,838	2,469,263	575,994	0	46,097	175,646	5,623,876	0	0	8,890,876
ILLINOIS	5,028,186	1,279,794	6,307,980	484,044	0	41,120	0	5,978,530	727,899	0	13,539,573
INDIANA	4,727,740	1,036,469	5,764,209	539,214	0	65,319	98,791	4,109,689	1,329,288	0	11,906,510
IOWA	4,957,646	2,103,793	7,061,439	428,874	0	119,202	723,327	19,882,039	857,603	0	29,072,484
KANSAS	3,014,732	952,900	3,967,632	300,144	0	126,241	810,000	2,856,246	99,497	0	8,159,760
KENTUCKY	4,745,518	1,248,347	5,993,865	649,554	3,304,446	56,303	225,820	1,479,641	1,694,637	0	13,404,266
LOUISIANA	2,760,739	832,983	3,593,722	888,624	1,861,427	42,758	462,978	4,936,338	1,284,875	0	13,070,722
MAINE	1,526,437	622,863	2,149,300	778,284	0	8,574	521,407	1,061,424	0	0	4,518,989
MARYLAND	2,027,778	783,718	2,811,496	392,095	1,401,357	19,265	1,486,929	970,427	250,000	0	7,331,569
MASSACHUSETTS	1,721,603	765,017	2,486,620	410,484	0	67,281	0	1,137,550	8,000	0	4,109,935
MICHIGAN	4,748,190	1,181,347	5,929,537	870,233	0	101,184	3,031,937	4,439,518	198,994	0	14,571,403
MICRONESIA	795,880	0	795,880	0	0	0	0	0	0	0	795,880
MINNESOTA	4,672,127	1,087,608	5,759,735	741,503	0	108,348	3,472,964	3,097,304	198,994	0	13,378,848
MISSISSIPPI	3,510,984	1,018,248	4,529,232	962,183	2,318,478	63,961	1,124,898	1,410,180	399,208	0	10,808,140
MISSOURI	4,568,893	971,614	5,540,507	631,164	3,245,818	135,911	716,746	4,200,364	2,029,664	0	16,500,174
MONTANA	1,671,084	808,414	2,479,498	612,774	0	49,174	458,978	577,300	696,479	0	4,874,203
NEBRASKA	2,797,519	1,102,574	3,900,093	263,365	0	114,020	50,000	6,157,595	198,994	0	10,684,067
NEVADA	966,292	442,627	1,408,919	116,245	0	5,661	156,948	575,000	0	0	2,262,773
NEW HAMPSHIRE	1,234,412	447,972	1,682,384	447,265	0	3,383	0	575,332	0	0	2,708,364
NEW JERSEY	1,707,577	1,412,482	3,120,059	355,314	0	12,609	3,004,047	649,992	0	0	7,142,021
NEW MEXICO	1,397,774	486,996	1,884,770	244,974	0	26,096	60,000	19,726	1,123,507	0	3,359,073
NEW YORK	4,429,009	1,977,758	6,406,767	907,013	0	105,766	1,605,285	7,267,251	262,500	0	16,554,582
NORTH CAROLINA	5,887,458	1,458,934	7,346,392	998,963	3,837,652	99,698	336,436	7,387,593	2,048,660	0	22,055,394
NORTH DAKOTA	1,997,628	732,140	2,729,768	153,025	0	24,159	628,450	3,284,474	497,485	0	7,317,361
NORTHERN MARIANAS	866,641	0	866,641	0	0	0	0	0	0	0	866,641
OHIO	5,684,392	1,178,657	6,863,049	557,604	0	63,321	0	3,820,726	730,636	0	12,035,336
OKLAHOMA	2,931,860	724,089	3,655,949	520,824	2,113,091	58,810	431,948	2,664,078	1,099,500	0	10,544,200
OREGON	2,244,615	1,144,984	3,389,599	943,793	0	70,258	1,011,271	12,626,307	634,500	0	18,675,728

TABLE 1 - FISCAL YEAR 2013
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS

	HATCH ACT AS AMENDED										
STATE	HATCH FORMULA	REGIONAL RESEARCH	TOTAL	COOP FORESTRY RSH (MS)	1890 UNIV & TUSK UNIV (EA)	ANIMAL HEALTH & DIS RSCH	SPECIAL AND OTHER GRANTS	COMPETITIVE RESEARCH GRANTS	HIGHER EDUCATION GRANTS	FED ADMIN DIRECT APPROP	TOTAL FEDERAL FUNDS
PENNSYLVANIA	5,448,106	1,513,771	6,961,877	667,944	0	117,014	30,850	7,426,579	0	0	15,204,264
PUERTO RICO	3,298,380	896,623	4,195,003	97,856	0	7,047	0	10,000	1,874,959	0	6,184,865
RHODE ISLAND	943,813	463,871	1,407,684	134,635	0	4,835	0	204,992	0	0	1,752,146
SOUTH CAROLINA	3,062,395	831,572	3,893,967	723,114	2,074,306	21,321	0	472,500	0	0	7,185,208
SOUTH DAKOTA	2,122,153	738,376	2,860,529	208,195	0	49,503	431,949	2,617,464	298,491	0	6,466,131
TENNESSEE	4,463,660	1,030,976	5,494,636	759,894	3,020,433	59,420	563,516	6,117,110	1,548,307	0	17,563,316
TEXAS	6,221,830	1,466,561	7,688,391	833,454	4,436,652	220,895	578,605	4,322,000	4,163,099	0	22,243,096
UTAH	1,214,784	899,386	2,114,170	189,805	0	16,440	2,915,082	1,499,112	0	0	6,734,609
VERMONT	1,286,040	392,797	1,678,837	465,654	0	8,653	2,998,257	79,000	810,059	0	6,040,460
VIRGIN ISLANDS	820,972	144,252	965,224	42,686	0	0	0	0	0	0	1,007,910
VIRGINIA	3,811,395	943,293	4,754,688	815,063	2,579,752	53,058	0	5,025,970	1,119,246	0	14,347,777
WASHINGTON	2,475,610	1,472,354	3,947,964	925,403	0	123,517	1,750,057	19,664,774	244,279	0	26,655,994
WEST VIRGINIA	2,350,621	652,786	3,003,407	594,384	1,362,990	12,670	582,803	467,404	1,696,576	0	7,720,234
WISCONSIN	4,692,682	1,185,224	5,877,906	686,333	0	58,336	2,226,445	6,105,581	198,994	0	15,153,595
WYOMING	1,152,348	644,999	1,797,347	281,756	0	217,444	0	995,742	0	0	3,292,289
OTHER	0	0	0	0	0	0	27,891	3,849,259	160,633	0	4,037,783
SBIR	4,328,773	1,402,118	5,730,891	797,734	1,232,861	95,890	1,111,435	7,142,746	154,511	0	16,266,068
FEDERAL ADMIN	4,804,489	1,517,207	6,321,696	913,785	1,412,212	147,978	1,881,654	11,022,756	2,044,838	7,241,689	30,986,608
SUBTOTAL	164,475,036	53,240,853	217,715,889	30,424,505	46,976,269	3,679,478	47,590,547	241,723,460	44,545,495	7,241,689	639,897,332
UNOBLIG BAL	0	0	0	0	0	0	330,498	32,217,346	3,910,634	0	36,458,478
SUBTOTAL	164,475,036	53,240,853	217,715,889	30,424,505	46,976,269	3,679,478	47,921,045	273,940,806	48,456,129	7,241,689	707,342,418
TRIBAL ENDOWMENT		0	0	0	0	0	0	0	11,880,000	0	11,880,000
BIOTECH RISK ASSESSMENT	654,375	206,645	861,020	34,980	97,480	19,980	101,458	1,628,100	32,800	0	2,775,818
TOTAL	**165,129,411**	**53,447,498**	**218,576,909**	**30,459,485**	**47,073,749**	**3,699,458**	**48,022,503**	**275,568,906**	**60,368,929**	**7,241,689**	**721,998,236**

Data may include 2013 obligations posted in 2014

TABLE 2 - FISCAL YEAR 2014
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS

STATE	HATCH ACT	COOP FORESTRY RSH (MS)	1890 UNIV & TUSK UNIV (EA)	ANIMAL HEALTH & DIS RSCH	SPECIAL AND OTHER GRANTS	COMPETITIVE RESEARCH GRANTS	HIGHER EDUCATION GRANTS	FED ADMIN DIRECT APPROP	TOTAL FEDERAL FUNDS
FEDERAL ADMIN	$7,075,419	$1,018,830	$1,574,550	$160,000	$2,247,680	$12,656,360	$2,420,000	$14,133,000	$41,285,839
UNOBLIGATED BALANCE	236,625,581	32,942,170	50,910,450	3,840,000	53,944,320	303,752,640	54,343,000	-	736,358,161
TOTAL	243,701,000	33,961,000	52,485,000	4,000,000	56,192,000	316,409,000	56,763,000	14,133,000	777,644,000

TABLE 3 - FISCAL YEAR 2015
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS

STATE	HATCH ACT	COOP FORESTRY RSH (MS)	1890 UNIV & TUSK UNIV (EA)	ANIMAL HEALTH & DIS RSCH	SPECIAL AND OTHER GRANTS	COMPETITIVE RESEARCH GRANTS	HIGHER EDUCATION GRANTS	FED ADMIN DIRECT APPROP	TOTAL FEDERAL FUNDS
FEDERAL ADMIN	$7,075,419	$1,018,830	$1,574,550	-	$4,771,000	$13,000,000	$2,022,000	$21,536,000	$50,997,799
UNOBLIGATED BALANCE	236,625,581	32,942,170	50,910,450	-	114,515,000	312,000,000	44,782,000	-	791,775,201
TOTAL	243,701,000	33,961,000	52,485,000	-	119,286,000	325,000,000	46,804,000	21,536,000	842,773,000

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
RESEARCH AND EDUCATION ACTIVITIES

Classification by Objects

(Dollars in thousands)

	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Personnel Compensation:				
Washington D.C.	$20,927	$20,927	$23,017	$23,153
11.1 - Full-time employees	20,927	20,927	23,017	23,153
12.0 - Personnel Benefits	5,529	6,508	7,081	7,244
13.0 - Benefits for former personnel	177	-	-	-
Total, personnel comp. and benefits	26,633	27,435	30,098	30,397
Other Objects:				
21.0 - Travel & Transportation of Persons	379	1,067	1,080	1,099
22.0 - Transportation of Things	-	11	6	6
23.1 - Rent to GSA	4	2	8	5,960
23.2 - Rent Paid to Others	-	-	41	41
23.3 - Comm., Util., Misc. Charges	658	867	658	658
24.0 - Printing and Reproduction	185	41	207	207
25.1 - Advisory and Assistance Services	165	230	165	165
25.2 - Other Services from non-Federal sources	4,271	4,478	6,551	1,528
25.3 - Purchases of Goods and Services	97	105	97	97
25.5 - Research & Development Contracts	9,288	7,074	8,500	5,443
25.6 - Medical Care	49	-	49	49
25.7 - Operation & Maint. of Equipment	92	9	92	194
25.8 - Subsistence & Support of Persons	82	21	82	82
26.0 - Supplies and Materials	153	17	223	223
31.0 - Equipment	34	65	175	175
41.0 - Grants, Subsidies & Contributions	677,962	638,786	963,722	796,449
Total, Other Objects	693,419	652,773	981,656	812,376
99.9 Total, new obligations	720,052	680,208	1,011,754	842,773
Position Data:				
Average Salary (dollars), ES positions	$164,627	$173,125	$174,856	$176,605
Average Salary (dollars), GS positions	$91,979	$91,480	$92,395	$93,319
Average Grade, GS positions	11.4	11.6	11.6	11.6

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE

Classification by Objects

(Dollars in thousands)

	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Personnel Compensation:				
Washington D.C.	$1,059	$97	$0	$0
11.1 - Full-time employees	1,059	97	0	0
12.0 - Personnel Benefits	246	26	0	0
13.0 - Benefits for former personnel	15	-	-	-
Total, personnel comp. and benefits	1,320	123	0	0
Other Objects:				
21.0 - Travel & Transportation of Persons	49	3	-	-
23.3 - Comm., Util., Misc. Charges	13	3	-	-
24.0 - Printing and Reproduction	2	-	-	-
25.1 - Advisory and assistance services	2	-	-	-
25.2 - Other services from non-Federal sources	190	15	111	120
25.4 - Oper & Maintenance of Facilities	157	6	-	-
25.5 - Research & Development Contracts	135	4	-	-
26.0 - Supplies and Materials	7	-	-	-
31.0 - Equipment	4	-	-	-
41.0 - Grants, Subsidies & Contributions	70,045	3,378	5,403	2,880
Total, Other Objects	70,604	3,409	5,514	3,000
99.9 Total, new obligations	71,924	3,532	5,514	3,000
Position Data:				
Average Salary (dollars), ES positions	$164,627	$173,125	$174,856	$176,605
Average Salary (dollars), GS positions	$91,979	$91,480	$92,395	$93,319
Average Grade, GS positions	11.4	11.6	11.6	11.6

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Shared Funding Projects

(Dollars in thousands)

	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Working Capital Fund:				
Administration:				
Beltsville Service Center	$77	$62	$67	$73
Mail and Reproduction Management	288	262	234	263
Integrated Procurement System	33	33	32	34
Procurement Operations	-	1	1	1
Subtotal	399	358	334	370
Communications:				
Creative Media & Broadcast Center	8	16	54	35
Finance and Management:				
NFC/USDA	63	75	97	105
Controller Operations	191	182	181	182
Financial Systems	511	423	403	399
Internal Control Support Services	139	163	140	141
Subtotal	904	844	822	827
Information Technology:				
NITC/USDA	173	493	133	134
International Technology Services	-	10	16	16
Telecommunications Services	240	417	445	453
Subtotal	413	921	595	603
Correspondence Management	53	70	62	73
Total, Working Capital Fund	1,775	2,209	1,867	1,909
Department-Wide Reimbursable Programs:				
1890's USDA Initiatives	12	11	11	11
Advisory Committee Liaison Services	13	10	12	12
Continuity of Operations Planning	7	8	8	8
E-GOV Initiatives HSPD-12	24	25	26	26
Emergency Operations Center	9	9	9	9
Facility and Infrastructure Review and Assessment	-	2	2	2
Faith-Based Initiatives and Neighborhood Partnerships	2	1	2	2
Federal Biobased Products Preferred Procurement Program	1	1	1	1
Hispanic-Serving Institutions National Program	8	8	8	8
Human Resources Transformation (inc. Diversity Council)	6	6	6	6
Intertribal Technical Assistance Network	8	12	12	12
Medical Services	12	14	15	15
Personnel and Document Security	4	5	5	5
Pre-authorizing Funding	13	13	14	14
Retirement Processor/Web Application	2	2	2	2
Sign Language Interpreter Services	31	37	40	40
TARGET Center	3	3	4	4
USDA 1994 Program	3	3	3	3
Virtual University	8	8	8	8
Visitor Information Center	3	3	4	4
Total, Department-Wide Reimbursable Programs	170	183	193	193

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Shared Funding Projects
(Dollars in thousands)

	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
E-Gov:				
Enterprise Human Resources Integration	11	10	9	9
E-Rulemaking	2	4	4	4
E-Training	10	8	11	11
Financial Management Line of Business	-	1	1	1
Geospatial Line of Business	-	-	-	-
GovBenefits.gov	3	4	-	-
Grants.gov	2	3	2	2
Grants Management Line of Business	-	-	-	-
Human Resources Line of Business	1	1	1	1
Integrated Acquisition Environment - Loans and Grants	5	5	7	7
Integrated Acquisition Environment	2	3	3	3
Recreation One-Stop	-	-	-	-
Total, E-Gov	36	39	38	38
Agency Total	1,981	2,430	2,097	2,140

RESEARCH AND EDUCATION ACTIVITIES:

Current Activities:

1. Hatch Act. The Hatch Act provides formula funds to support research at the State Agricultural Experiment Stations which improves production, marketing, distribution, and utilization of crops and livestock for the food supply, health, and welfare of the American people, while conserving resources, enhancing nutrition and sustaining rural living conditions. Students are provided training opportunities to assist in scientific research projects conducted at the stations. Hatch Act formula funds are matched by non-Federal funds and are used to support research in forest and natural resources; crop resources; animal resources; people, communities, and institutions; competition, trade adjustment, price, and income policy; and food science and human nutrition. As a result of provisions contained in the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA), at least 25 percent of available Hatch funding must be used to support multi-State research; States must expend 25 percent, or two times the level spent in fiscal year (FY) 1997 (whichever is less), on integrated research and extension activities.

2. McIntire-Stennis Cooperative Forestry Research. The McIntire-Stennis Cooperative Forestry Research program provides formula funds to support research related to use of the Nation's forest resources. Timber production, forest land management, wood utilization, and the associated development of new products and distribution systems are some of the topics of this research. Additional areas of investigation include wildlife, recreation, water, range, and environmental quality, which are essential to the long-term productivity and profitability of the integrated system of forest resources.

3. Evans-Allen Program. The Evans-Allen formula funds research program for the 1890 Colleges and Tuskegee University was established in the Food and Agriculture Act of 1977, as amended. Beginning in FY 1979, annual appropriations have been used to support continuing agricultural research at the 1890 Colleges and Tuskegee University. The general provisions section 753 of Public Law 107-76 makes West Virginia State University eligible to receive funds under this program. Appropriations under this authority are the primary source of support for the food and agricultural research programs at the 1890 Colleges, Tuskegee University and West Virginia State University. Section 1445(a)(2) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3222(a)(2)), as amended by section 7122 of the Food, Conservation, and Energy Act of 2008 (FCEA or 2008 Farm Bill), requires that funds appropriated for this program be not less than 30 percent of the Hatch Act appropriation. Evans-Allen funds require a 100 percent non-Federal match. These programs place emphasis on small-scale agriculture, human nutrition, rural development and quality of living, crop resources, and animal resources. In addition, this program supports the development of agricultural expertise by providing training opportunities for students to assist in the research projects being conducted at these institutions.

4. Animal Health and Disease Research. The Animal Health and Disease Research formula program provides funding to accredited schools or colleges of veterinary medicine and/or State Agricultural Experiment Stations that conduct animal health and disease research. State Comprehensive Plans for animal health research, approved by NIFA, are being followed by the eligible institutions. Provisions of Section 1433 of NARETPA permit selection of studies within each State based on the highest-priority needs and the capabilities of the institutions to conduct the needed research.

5. Special Grants. The Special Grants Program concentrates on problems of national, regional, and local interest beyond the normal emphasis in the formula programs. Program objectives are to facilitate or expand promising breakthroughs of importance to the Nation in areas of food and agricultural sciences and to facilitate or expand ongoing State-Federal food and agricultural research programs. Generally, funding is for projects that have regional and/or national impact, such as those projects addressing global change, pest control issues,

aquaculture centers, sustainable agriculture, critical agricultural materials, potato, and supplemental and alternative crops.

6. Agriculture and Food Research Initiative (AFRI). AFRI supports fundamental and applied research, extension, and education to address food and agricultural sciences (as defined under section 1404 of NARETPA). Competitive awards are made to eligible recipients to address critical issues in U.S. agriculture in the areas of food security, climate variability change, sustainable bioenergy, childhood obesity, food safety, and water resources. Addressing these critical issues will engage scientists and educators with expertise in plant health and production and plant products; animal health and production and animal products; food safety, nutrition, and health; renewable energy, natural resources, and environment; agriculture systems and technology; and agriculture economics and rural communities. Of the amount of funds made available for research, not less than 60 percent is used for fundamental research and not less than 40 percent is used for applied research. No less than 30 percent of the amount allocated for fundamental research is available for research conducted by multidisciplinary teams and no more than 2 percent to be used for equipment grants. In addition, no less than 30 percent of AFRI funding may be used to carry out integrated research, education, and extension activities such as those provided for in section 406 of AREERA (7 U.S.C. 7626).

7. Small Business Innovation Research (SBIR) Program. The Small Business Innovation Development Act was designed to strengthen the role of small, innovative firms in Federally funded research and development. Under the SBIR program, between 2.8 to 3.2 percent of appropriations for extramural research and development is set aside for awards to eligible small firms. The SBIR Program is a three-phased effort, but only Phase I and Phase II, the feasibility and follow-on research and development phases respectively, are eligible for support with USDA funds. Firms are encouraged to secure Phase III funding for the commercialization phase from other public or private sources. The research areas supported under the SBIR program address critical issues in U.S. agriculture in the areas of global food security and hunger, climate change, sustainable bioenergy, childhood obesity, and food safety. Addressing these critical issues will engage small businesses with expertise in a number of areas including plant and animal production and protection; forests and related resource sciences; air, soil and water resources; food and nutrition sciences; rural development; biofuels and biobased products; aquaculture; and small and mid-sized farms. NIFA administers the SBIR program for USDA, including the funds set aside for SBIR from other USDA agencies.

8. Tribal Colleges Research Grants Program. The Tribal Colleges Research Grants Program (authorized under the Equity in Educational Land-Grant Status Act of 1994, Public Law 103-382, as amended) is a competitive program for conducting agricultural research activities that address tribal, National, or multi-State priorities.

9. Farm Business Management and Benchmarking Program. The Farm Business Management and Benchmarking Program provides support to improve the farm management knowledge and skills of agricultural producers, and establish and maintain a national, publicly available farm financial management database to support improved farm management. Funds are awarded on a competitive basis under the program.

10. Sun Grant Program. The Sun Grant Program funds six sun grant centers that award subgrants to enhance national energy through the development, distribution, and implementation of biobased energy technologies. Through biobased energy and product technologies, activities are supported that promote diversification, and the environmental sustainability of, agricultural production in the U.S., and economic diversification in rural areas of the U.S. Funds are also used to enhance the efficiency of bioenergy and biomass research and development programs through improved coordination and collaboration among USDA, Department of Energy, and land-grant colleges and universities.

11. Capacity Building for Non-Land Grant Colleges of Agriculture. The Capacity Building for Non-Land Grant Colleges of Agriculture (NLGCA) Program competitively awards grants to assist the institutions in maintaining and expanding the capacity of the NLGCA Institutions to conduct education, research, and outreach activities relating to agriculture, renewable resources, and other similar disciplines.

12. Higher Education Programs. The competitive Institution Challenge, Multicultural Scholars, and Graduate Fellowship Grants Program supports challenge grants to stimulate and enable colleges and universities to provide the quality of education necessary to produce graduates capable of strengthening the Nation's food and

agricultural scientific and professional workforce. Institutions match USDA funds on a dollar-for-dollar basis. The program provides funding for multicultural scholars grants to institutions for scholarships to attract and educate more students from groups currently underrepresented in the food and agricultural sciences for careers in agriscience and agribusiness. Institutions must provide 25 percent in matching funds. Also supported are fellowship grants to colleges and universities to stimulate the development of food and agricultural scientific expertise in targeted areas of national need specifically to the recruitment and training of doctoral students for critical food and agricultural scientific positions. The competitive Secondary Education, Two-year Postsecondary Education, and Agriculture in the K-12 Classroom Program promotes and strengthens the ability of public secondary schools' education in agribusiness and agriscience and increases the number and/or diversity of young Americans pursuing college degrees in the food and agricultural sciences. The competitive 1890 Institution Capacity Building Grants Program is one of the Department's high-priority initiatives to advance the teaching and research capacity, and expand the competitiveness of the 1890 Land-Grant Institutions and Tuskegee University. The competitive Hispanic-Serving Institutions Education Grants Program promotes and strengthens the ability of Hispanic-Serving Institutions to carry out higher education teaching programs in the food and agricultural sciences. The Tribal Colleges Endowment Fund distributes interest earned by an endowment established for the 1994 Land-Grant Institutions (legislatively 34 Tribally controlled colleges are eligible) as authorized in the Equity in Education Land-Grant Status Act of 1994, P.L. 103-382, as amended. The Endowment Fund enhances education in agricultural sciences and related areas for Native Americans by building education capacity at these institutions. The Tribal Colleges Education Equity Grants Program is a formula program designed to enhance educational opportunities for Native Americans by strengthening instructional programs in food and agriculture. The Alaska Native Serving and Native Hawaiian-Serving Institutions Education Grants Program is designed to recruit, support and educate minority scientists and professionals, and advance the educational capacity of these Native-serving institutions. Grants for Insular Areas Program supports activities at higher education institutions located in U.S. insular areas. Grants support enhancement of resident instruction programs that focus on agriculture, natural resources, forestry, veterinary medicine, home economics, and disciplines closely allied to food and agriculture production and delivery systems. The grants also fund distance education programs that strengthen the capability of the institutions to carry out collaborative distance food and agricultural education programs using digital network technologies. The Veterinary Medicine Loan Repayment Program provides for a loan repayment program for a specified payment amount of qualifying educational loans of veterinarians for geographical areas that have a shortage of veterinarians; and areas of veterinary practice that the Secretary determines have a shortage of veterinarians, such as food animal medicine, public health, epidemiology, and food safety.

Selected Examples of Recent Progress:

1. Hatch Act. *E. coli* O104:H4 is a newly recognized strain of bacteria that was responsible for over 30 foodborne illness related deaths in Germany in 2011. While this strain has not yet caused foodborne illness in the U.S., it caused 20 percent more deaths worldwide than other strains of *E. coli*. Researchers at Michigan State University are investigating why this strain causes such severe illness and effective strategies for preventing them. Also, researchers at the University of Nebraska and Kansas State University are evaluating the ability of the German strain to infect the gastrointestinal tract of cattle. This research is critical in understanding the threat of this new strain to public health and the U.S. food supply.

2. McIntire-Stennis Cooperative Forestry Research. Currently used wood adhesives are predominately derived from non-renewable petrochemicals and may contain hazardous formaldehyde. Oregon State University developed an environmentally friendly wood adhesive from soybean flour. The adhesive is currently used in the commercial production of interiorly used plywood panels. By replacing the urea-formaldehyde resin with this new alternative adhesive, the emission of volatile organic compounds and hazardous air pollutants in each plant was reduced by 90 percent.

3. Evans-Allen Program. Researchers in Alabama conducted breeding work to select for drought and high temperature resistant cotton and peanut varieties and sweet potato varieties adaptable to drought conditions. The research is likely to yield varieties that can be used by farmers to achieve more robust cotton, peanut, and sweet potato crops in drought conditions. This type of crop loss prevention will result in better economic sustainability of such crops and mitigate the risk of farmers losing profit due to drought conditions.

4. Animal Health and Disease Program. Researchers at the University of California studied the impact of Foot and Mouth disease (FMD) vaccination strategies on livestock as well as direct cost and economic differences affected by the geographic location of the outbreak. Results showed generally large effects of the index herd on outbreak size but not outbreak duration. Epidemics that started in large dairy herds were approximately twice as big as epidemics that started in a small dairy herd but persisted for roughly the same duration. Re-opening salesyards had small effects on any outcome measure. In addition, the results suggest that localized movement bans around known infected herds and rapid slaughter of diagnosed herds might be sufficient to bring an FMD epidemic under control. Re-opening salesyards before the end of an outbreak might be a viable option. The research may impact future decisions regarding how FMD control strategies in the U.S. are selected, with the ultimate impact being savings of animal lives as well as reducing the impact on the livestock industry and US economy.

5. Agriculture and Food Research Initiative. Heat stress is one of the costliest issues in the U.S. pork industry. Researchers at Iowa State University are investigating how heat stress affects a pig's metabolism and performance. In particular, heat stress can affect the fetal development and postnatal life of the pig, including the ability to develop and grow. The results of this project have thus far provided important insight into the physiological effects of heat stress. Project discoveries are improving the understanding of how heat stress directly and indirectly alters post-absorptive nutrient partitioning and tissue synthesis and are a step towards developing future mitigating strategies to maximize pork production during the stressful summer months.

   The Southeast Partnership for Integrated Biomass Supply Systems (IBSS) includes a consortium of scientists from Alabama, Georgia, Tennessee, North Carolina, and South Carolina. The scientists are studying the deployment of an infrastructure-compatible (IC) biofuels industry across the region, and addressing the opportunity presented by the unmatched biomass production capacity of the region. IBSS incorporates a parallel path for development that includes the near-term demonstration of IC fuel production with an industrial partner while developing the information needed to reduce the deployment risks and lowering feedstock and conversion costs across the region. The partners are working to establish the pipeline for high-yield, high-performance lignocellulosic biomass that is necessary for biorefineries to operate successfully, and are hoping to contribute significantly to the improvement of rural prosperity and job creation in the region.

   A University of Florida project is bringing together research scientists and Extension professionals to provide critical economical and ecological services to U.S. citizens. Topics they will look at include ways to increase the amount of carbon dioxide sequestered, support public policy in sustainable management, enhance connections between corporate and non-corporate landowners, and support a more robust and resilient forest-based economy in the Southeast U.S. Southeastern forests contain one third of contiguous U.S. forest carbon and form the backbone of an industry that supplies 16 percent of global industrial wood, 5.5 percent of the jobs, and 7.5 percent of the industrial economic activity in the region. A key element of the project is the ability to leverage and expand existing, successful networks.

6. Small Business Innovation Research Program. Clean Plus Inc. has developed a new product in its line of industrial cleaning solutions designed to absorb oil and other liquids from floors. The product developed is called Drip Trap Absorbent Granules. While other companies offer similar industrial cleaning solutions, most are made from clay and chemical compounds. The difference in Clean Plus Inc.'s product is the main ingredient of its granules is corn stocks, a byproduct of many farms in Minnesota and across the nation. Moreover, Clean Plus Inc. was featured in the January 2013 issue of Enterprise Minnesota magazine. In the article, the company president communicated the product's potential by stating that it could eventually double Clean Plus Inc.'s business.

7. Biotechnology Risk Assessment Research Grants Program. Scientists at the University of Connecticut are studying ecological risk for genetically-modified switchgrass and herbicide-resistant creeping bentgrass in the New England region. The research provides information for predicting the movement of transgenes into native or naturalized grass populations. The information helps regulators and others understand the potential impact of transgenic perennial grasses on natural plant communities and ecosystems. In addition, the project helps researchers predict the effects of transgenic grasses on managed lands such as farm fields, pastures, utility right-of-ways, roadsides, and public open space.

8. Institution Challenge, Multicultural Scholars and Graduate Fellowship Program. The University of Missouri is establishing a consortium with Oregon State University, Tuskegee University (Alabama), and University of Alaska to design a Masters-level degree program to address the shortage of qualified individuals working with sustainable food, agriculture, and rural policy issues in climate change adaptation. Program graduates are expected to better understand and resolve issues involving climate change adaptation in relation to energy, environmental, agricultural and rural policies, and the economic, social, environmental and political changes impacting agriculture and rural regions.

9. Hispanic Serving Institutions Education Grants Program. New Mexico State University is leading a collaboration of 14 Hispanic-Serving Institutions in New Mexico and Puerto Rico to address climate change issues, and mentor students to prepare them for careers in natural resources management. The program serves a minimum of 40 undergraduate and 10 graduate students annually, and provides experiential learning opportunities in the field. Results show an improvement in recruitment, retention, academic performance and graduation rates among underrepresented students; and a greater number of students transitioning from 2-year to 4-year institutions.

10. 1890 Institutions Capacity Building Grants Program. Kentucky State University (KSU) is creating an online geospatial certification to increase the university's capacity to enhance the curricula and materials used for student learning, improve the instrumentation used by faculty teaching graduate level courses, expand the student experiential learning opportunities, and strengthen the recruitment and retention efforts of graduate students. The KSU Geographic Information Systems (GIS) Center provides resources and technical support to the adjuncts faculty teaching introductory GIS courses. Future plans include offering GIS courses as part of the KSU College of Agriculture curriculum with cross-listings in other disciplines. Since GIS is a primer to the study of spatial concepts, the investigators will establish an introductory GIS course as an elective in most of the undergraduate disciplines, and a requirement at the graduate level.

11. Tribal Colleges Education Equity Grants Program. United Tribes Technical College in Bismarck, North Dakota created a two-year nutrition and food service program that combines nutrition, health, food safety, and food science. With reservation unemployment as high as 21 percent, the program offers qualified students the opportunity to obtain critical training towards a career in the food sciences. To date, more than 264 students have enrolled in the program with 44 graduating-- including two earning advanced degrees.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Extension Activities

The estimates include appropriation language for this item as follows (new language underscored; deleted matter enclosed in brackets):

Extension Activities

For payments to States, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, Micronesia, the Northern Marianas, and American Samoa, **[**$469,191,000,**]** $468,968,000, which shall be for the purposes, and in the amounts, specified in the table titled "National Institute of Food and Agriculture, Extension Activities" [in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act)] described in the report accompanying this Act: Provided, That funds for facility improvements at 1890 institutions shall remain available until expended: Provided further, That institutions eligible to receive funds under 7 U.S.C. 3221 for cooperative extension receive no less than $1,000,000: Provided further, That funds for cooperative extension under sections 3(b) and (c) of the Smith-Lever Act (7 U.S.C. 343(b) and (c)) and section 208(c) of Public Law 93–471 shall be available for retirement and employees' compensation costs for extension agents.

Explanation of Change

The change revises the explanatory statement wording to be more general as to apply to any appropriations act.

EXTENSION ACTIVITIES
Lead-Off Tabular Statement

Budget Estimate, 2015	$468,968,000
2014 Enacted	469,191,000
Change in Appropriation	-223,000

EXTENSION ACTIVITIES
Summary of Increases and Decreases
(Dollars in thousands)

Program	2012 Actual	2013 Change	2014 Change	2015 Change	2015 Estimate
Discretionary Appropriations:					
Smith-Lever Sections 3(b) and 3(c)	$294,000	-$22,731	+$28,731	-	$300,000
1890 Colleges, Tuskegee Univ. & WV State University	42,592	-3,293	+4,621	-	43,920
Smith-Lever 3 (d):					
Expanded Food and Nutrition Education Program	67,934	-5,252	+5,252	-	67,934
Federally Recognized Tribes Extension	3,039	-235	+235	-	3,039
New Technologies for Ag Extension	1,550	-120	+120	+$200	1,750
Pest Management	9,918	-767	-9,151	-	-
Sustainable Agriculture	4,696	-363	-4,333	-	-
Youth at Risk	7,600	-588	+1,383	-	8,395
Farm Safety and Youth Farm Safety Education & Cert	4,610	-356	+356	-	4,610
Federal Administration	7,852	+31	+474	+227	8,584
Subtotal	443,791	-33,673	+27,687	+427	438,232
1890 Facilities Grants (Sec. 1447)	19,730	-	+1,525	-	19,730
Extension Services at the 1994 Institutions	4,312	-	+467	-	4,446
Food Animal Residue Avoidance Database (FARAD)	1,000	-77	+327	-1,250	-
Food Safety Outreach Program	-	-	-	+2,500	2,500
Grants to Youth Organizations	750	-77	-673	-	-
Renewable Resources Extension Act (RREA)	3,700	-286	+646	-	4,060
Rural Health and Safety Education	1,500	-116	+116	-1,500	-
Women and Minorities in STEM Fields	400	-31	+31	-400	-
Total	475,183	-36,120	+30,128	-223	468,968

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
EXTENSION ACTIVITIES
Project Statement by Program
Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Smith-Lever Sections 3(b) and 3(c)	$294,000	-	$271,269	-	$300,000	-	-	-	$300,000	-
1890 Colleges, Tuskegee Univ. & WV State Univ	42,592	-	39,299	-	43,920	-	-	-	43,920	-
Smith-Lever, Section 3d Programs:										
Farm Safety and Youth Farm Safety Education and Certification	4,610	-	4,254	-	4,610	-	-	-	4,610	-
Expanded Food and Nutrition Education Program	67,934	-	62,682	-	67,934	-	-	-	67,934	-
Federally Recognized Tribes Extension	3,039	-	2,804	-	3,039	-	-	-	3,039	-
New Technologies for Ag Extension	1,550	-	1,430	-	1,550	-	$200	-	1,750	-
Pest Management	9,918	-	9,151	-	-	-	-	-	-	-
Sustainable Agriculture	4,696	-	4,333	-	-	-	-	-	-	-
Youth at Risk	7,600	-	7,012	-	8,395	-	-	-	8,395	-
Total Section 3d Programs	99,347	-	91,666	-	85,528	-	200	-	85,728	-
Rural Health and Safety Education	1,500	-	1,384	-	1,500	-	-1,500	-	-	-
1890 Facilities Grants (Sec. 1447)	19,730	-	18,205	-	19,730	-	-	-	19,730	-
Grants to Youth Organizations	750	-	673	-	-	-	-	-	-	-
Food Safety Outreach Program	-	-	-	-	-	-	+2,500	-	2,500	-
Renewable Resources Extension Act (RREA)	3,700	-	3,414	-	4,060	-	-	-	4,060	-
Extension Services at the 1994 Institutions	4,312	-	3,979	-	4,446	-	-	-	4,446	-
Food Animal Residue Avoidance Database (FARAD)	1,000	-	923	-	1,250	-	-1,250	-	-	-
Women and Minorities in STEM Fields	400	-	369	-	400	-	-400	-	-	-
Federal Administration (direct appropriation)										
General Administration	7,300	-	7,374	-	7,805	-	+779	-	8,584	-
Ag in the Classroom	552	-	509	-	552	-	-552	-	-	-
Total Federal Administration	7,852	-	7,883	-	8,357	-	+227	-	8,584	-
Subtotal	475,183	-	439,063	-	469,191	-	-223	-	468,968	-
Mandatory Appropriations:										
Risk Management Education Program	5,000	-	4,745	-	4,640	-	360	-	5,000	-
Beginning Farmers and Ranchers	19,000	-	-	-	20,000	-	0	-	20,000	-
Total Adjusted Appropriation	499,183	155	443,808	148	493,831	154	137	-	493,968	154
Rescissions, Transfers, and Seq. (Net)	-	-	37,046	-	360	-	-360	-	-	-
Total Appropriation	499,183	155	480,854	148	494,191	154	-223	-	493,968	154
Transfers In:										
Congressional Relations	52	-	48	-	-	-	-	-	-	-
Rescission	-	-	-12,886	-	-	-	-	-	-	-
Sequestration		-	-24,160	-	-360	-	360	-	-	-
Balance Available, SOY	9,150	-	5,135	-	7,655	-	-7,655	-	-	-
Recoveries, Other (Net)	-	-	2,077	-	-	-	-	-	-	-
Total Available	508,385	155	451,069	148	501,486	154	-7,518	-	493,968	154
Lapsing Balances	-70	-	-852	-	-	-	-	-	-	-
Balance Available, EOY	-5,135	-	-7,655	-	-	-	-	-	-	-
Total Obligations	503,179	155	442,562	148	501,486	154	-7,518	-	493,968	154

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
EXTENSION ACTIVITIES
Project Statement by Program
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Smith-Lever Sections 3(b) and 3(c)	$293,930	-	$270,418	-	$300,000	-	-	-	$300,000	-
1890 Colleges, Tuskegee Univ. & WV State Univ	42,592	-	39,299	-	43,920	-	-	-	43,920	-
Smith-Lever, Section 3d Programs:										
Farm Safety and Youth Farm Safety Education and Certification	4,610	-	4,254	-	4,610	-	-	-	4,610	-
Expanded Food and Nutrition Education Program	67,934	-	62,682	-	67,934	-	-	-	67,934	-
Federally Recognized Tribes Extension	3,039	-	2,804	-	3,039	-	-	-	3,039	-
New Technologies for Ag Extension	1,550	-	1,430	-	1,550	-	+$200	-	1,750	-
Pest Management	9,918	-	9,151	-	-	-	-	-	-	-
Sustainable Agriculture	4,696	-	4,333	-	-	-	-	-	-	-
Youth at Risk	7,600	-	7,012	-	8,395	-	-	-	8,395	-
Total Section 3d Programs	99,347	-	91,666	-	85,528	-	+200	-	85,728	-
Rural Health and Safety Education	1,500	-	1,384	-	1,500	-	-1,500	-	-	-
1890 Facilities Grants (Sec. 1447)	23,744	-	17,752	-	27,195	-	-7,465	-	19,730	-
Grants to Youth Organizations	750	-	673	-	-	-	-	-	-	-
Food Safety Outreach Program	-	-	-	-	-	-	+2,500	-	2,500	-
Renewable Resources Extension Act (RREA)	3,700	-	3,414	-	4,060	-	-	-	4,060	-
Extension Services at the 1994 Institutions	4,312	-	3,979	-	4,446	-	-	-	4,446	-
Food Animal Residue Avoidance Database (FARAD)	1,000	-	923	-	1,250	-	-1,250	-	-	-
Women and Minorities in STEM Fields	400	-	369	-	400	-	-400	-	-	-
Federal Administration (direct appropriation)										
General Administration	7,353	-	7,422	-	7,805	-	+779	-	8,584	-
Ag in the Classroom	552	-	509	-	552	-	-552	-	-	-
Total Federal Administration	7,905	-	7,931	-	8,357	-	+227	-	8,584	-
Subtotal	479,180	-	437,807	-	476,656	-	-7,688	-	468,968	-
Mandatory Obligations:										
Risk Management Education Program	5,000	-	4,755	-	4,830	-	+170	-	5,000	-
Beginning Farmers And Ranchers	19,000	-	-	-	20,000	-	-	-	20,000	-
Subtotal	24,000	-	4,755	-	24,830	-	+170	-	25,000	-
Total Obligations	503,179	155	442,562	148	501,486	154	-7,518	-	493,968	154
Lapsing Balances	70	-	852	-	-	-	-	-	-	-
Balance Available, EOY	5,135	-	7,655	-	-	-	-	-	-	-
Total Available	508,385	155	451,069	148	501,486	154	-7,518	-	493,968	154
Transfers In:										
Congressional Relations	-52	-	-48	-	-	-	-	-	-	-
Rescission	-	-	12,886	-	-	-	-	-	-	-
Sequestration	-	-	24,160	-	360	-	-360	-	-	-
Balance Available, SOY	-9,150	-	-5,135	-	-7,655	-	+7,655	-	-	-
Recoveries, Other (Net)	-	-	-2,077	-	-	-	-	-	-	-
Total Appropriation	499,183	155	480,854	148	494,191	154	-223	-	493,968	154

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Justification of Increases and Decreases

EXTENSION ACTIVITIES

1. Sustained support for Smith-Lever 3(b) and (c) ($300,000,000 available in 2014) as follows:

Smith-Lever 3(b)&(c) base funds are used by institutions eligible to receive funds under the Morrill Act of July 2, 1862, for the development of practical applications of research knowledge and practical demonstrations of existing or improved practices or technologies in agriculture; implementation of solar energy with respect to agriculture, home economics, and rural energy; and dissemination of information to communities through demonstrations and publications. The translation of knowledge and delivery of the innovations as solutions to problems facing producers and others is the hallmark of the Cooperative Extension System of the U.S., which is supported with funds through Smith-Lever 3(b)&(c), along with funding from state and local (county) sources. Program activities support all REE Action Plan Goals.

Continued enhanced support of Smith-Lever 3(b)&(c) is critical to ensure that the Extension system is viable and supports the global preeminence of America's food and agricultural enterprise. For example, Smith-Lever 3 (b) and (c) funding is supporting work on Colony Collapse Disorder, which is a serious problem threatening the health of honey bees and commercial beekeeping and pollination operations. Smith-Lever funds are supporting a project that is highlighting a previously unknown route of exposure for honey bees to neonicotinoid insecticides used in seed treatments – the talc exhaust produced by planters. Scientists are analyzing effects of land use, weather and apiary locations to measure the area potentially affected by talc exhaust. They hope to provide stakeholders across four Midwestern states with this information via the Driftwatch.org platform, a site familiar to both crop producers and beekeepers.

2. Sustained support for 1890 Institutions ($43,920,000 available in 2014) as follows:

These funds are authorized under section 1444 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 and are used to support continuing agricultural and forestry extension activities at 1890 Land-Grant Universities. Base funds provide support to one or more of the following Extension base program areas: Agriculture; Community Resources and Economic Development; Family Development and Resource Management; 4-H and Youth Development; Leadership and Volunteer Development; Natural Resources and Environmental Management; and Nutrition, Diet and Health. Program activities support REE Action Plan Goals 6 and 7.

3. A net increase of $200,000 to Smith-Lever 3(d) ($85,528,000 available in 2014) as follows:

   a. Sustained support for Expanded Food and Nutrition Education Program ($67,934,000 available in 2014) as follows:

The Expanded Food and Nutrition Education Program (EFNEP) has deep roots into local communities and works with a variety of program partners and collaborators in order to reach and teach program participants and coordinate services. Some of these program partners are: food assistance agencies, food banks, worksite and wellness programs, schools, local housing authorities, and faith based organizations. These partnerships often result in increased program resources, especially program teaching space, food supplies for teaching, and program participants. EFNEP also collaborates with federal and state agencies to increase the reach of the program and to achieve shared missions. Base funding for EFNEP is focused on reaching the poorest of the poor and working through families to address some of the most pervasive societal challenges – hunger, malnutrition, poverty, and more recently obesity. As a mission outcome, EFNEP provides practical, hands-on nutrition education to improve health. Each year, more than a half million low-income families and youth are taught by EFNEP peer educators. More than 80 percent of EFNEP families report living at or below 100 percent of poverty, and nearly 70 percent indicate being of minority status. This is important as poor health

outcomes have disproportionately affected minority and low-income populations. Program activities support REE Action Plan Goal 4.

b. Sustained support for AgrAbility/Farm Safety (formerly Farm Safety and Youth Farm Safety Education and Certification) ($4,610,000 available in 2014) as follows:

Base funding will be used for competitively awarded projects to Extension working with non-profit disability organizations in conducting AgrAbility projects. The projects are designed to assist farmers and ranchers with disabilities to stay in agricultural production. Also the program provides competitively awarded funding to states to conduct training and certification needs of youth working in agriculture. Program activities support REE Action Plan Goal 6 and 7.

c. An increase of $200,000 for New Technologies for Agricultural Extension ($1,550,000 available in 2014) as follows:

The New Technologies for Agricultural Extension Program functions to increase the capacity of each State to contribute expertise and content to the development of eXtension, a national web-based information and education delivery system. This initiative is intended to support the Cooperative Extension System and staff to better serve its customers and the general public. By creating web-based access to high quality, non-duplicative, research-based information and education opportunities, the Cooperative Extension System can better serve the needs of their users and reach new audiences. Base funding will be utilized to support Internet-based tools to create learning networks and utilize social media that provides fast and convenient access to objective, peer-reviewed, and researched-based information, education, and guidance on subjects that include food safety, disaster assistance, natural resources and environment, climate change, youth development, farm, family, nutrition and health, commodities and other agricultural related topics. Increased funding will be used to deliver the education component of USDA agencies and develop partnerships with other federal agencies and the private sector. Program activities support all REE Action Plan Goals.

d. Sustained support for Children, Youth, and Families at Risk ($8,395,000 available in 2014) as follows:

The program is designed to marshal resources of the Land-Grant Universities and Cooperative Extension System to develop and deliver community based programs for at risk children and their families. Base funding supports programs that work in the family and community centers to meet critical needs such as access to educational resources and technological skills. CYFAR also supports building resiliency and protective factors in youth, family, and communities. Projects focus on early childhood, school age youth, teen, and family outcomes with emphasis on science and reading literacy, and building youth and family program and community capacity. Program activities support REE Action Plan Goal 6 and 7.

e. Sustained support for Federally-Recognized Tribes Extension Program ($3,039,000 available in 2014) as follows:

Base funding for this program supports Extension Agents who establish Extension education programs on the Indian Reservations and Tribal jurisdictions of Federally-Recognized Tribes. To the extent practicable, priorities should reflect NIFA's national critical needs areas to: develop sustainable energy, increase global food security, adapt /mitigate agriculture and natural resources to global climate change, reduce childhood and adolescent obesity, and improved food safety. By focusing on increasing food security, reducing childhood and adolescent obesity and improving food safety, this program helps to improve the quality of life and the life expectancy in Tribal communities. Program activities support REE Action Plan Goal 6 and 7.

4. Sustained support for Extension Services at 1994 Institutions ($4,446,000 available in 2014) as follows:

This program provides base funding to increase Extension program capacity at 1994 Land-Grant Institutions to address special needs, take advantage of important opportunities, and/or demonstrate long-term sustained benefits of Extension projects. Awards support one or more of the following Extension base program areas: Agriculture; Community Resources and Economic Development; Family Development and Resource Management; 4-H and Youth Development; Leadership and Volunteer Development; Natural Resources and Environmental Management; and Nutrition, Diet and Health. In 2012, through TCEP approximately 16,414 American Indian agricultural producers received Extension support to develop vibrant, job-creating agri-businesses. Another 37,126 youth found safe places to learn and have fun through Extension programs on Indian Reservations. Funding will promote Program activities support REE Action Plan Goal 6 and 7.

5. Sustained support for Renewable Resources Extension Act ($4,060,000 available in 2014) as follows:

The Renewable Resources Extension Act of 1978 (P.L. 95-306, 92 Stat. 349, 16 U.S.C. 1671 et seq.) provides for an expanded and comprehensive extension program for forest and rangeland renewable resources. The majority of the appropriated funds are distributed to eligible institutions based on a formula that considers the geographic extent, ecosystem productivity, economic contribution, and population for each state. Base funding for these grants are used to assist all states in carrying out a program of extension activities designed to (1) use educational programs to disseminate the results of research on renewable resources; (2) conduct educational programs that transfer the best available technology to those involved in the management and protection of forests and rangelands and the processing and use of their associated renewable resources; (3) develop and implement educational programs that give special attention to the educational needs of small, private non-industrial forest landowners; (4) develop and implement educational programs in range and fish and wildlife management; (5) assist in providing continuing education programs for professionally trained individuals in fish and wildlife, forest, range, and watershed management and related fields; (6) help forest and range landowners in securing technical and financial assistance to bring appropriate expertise to bear on their problems; and (7) help identify areas of needed research regarding renewable resources. Program activities support REE Action Plan Goal 3.

6. Sustained support for 1890 Facilities ($19,730,000 available in 2014) as follows:

This program funds the acquisition and improvement of agricultural and food sciences facilities and equipment, including libraries, so that eligible 1890 land-grant institutions may participate fully in the development of human capital in the food and agricultural sciences. Annually, each institution receives one award. Program activities support REE Action Plan Goal 6.

7. An increase of $2,500,000 for Food Safety Outreach Program ($0 available in 2014) as follows:

With additional annual resources of $2.5 million, NIFA in close collaboration with the Food and Drug Administration will establish a program to provide food safety training, education, extension, outreach and technical assistance to owners and operators of small farms, small food processors, and small fruit and vegetable vendors affected by the Food Safety Modernization Act (FSMA) of 2011 (H.R. 2751). The authority for this new program is described in Section 405 of AREERA (7 U.S.C. 7625), which amends Title IV of the Agricultural Research, Extension, and Education Reform Act of 1998.

The outreach program will facilitate the integration of food safety standards and guidance in a variety of agricultural production systems, encompassing conventional, sustainable, organic, conservation and environmental practices. The program will target small and medium-sized farms, beginning farmers, socially disadvantaged farmers, small processors, and/or small fresh fruit and vegetable merchant wholesalers. The program will focus on helping those key target audiences understand and interpret new Federal food safety guidelines enacted under FSMA, thus enabling them to develop and implement those guidelines in their respective environments. Where needed, partners and collaborators will provide technical assistance to key target audience requiring additional assistance in implementing new food safety

guidelines. NIFA will work with the Food and Drug Administration, who is charged with implementing FSMA, to jointly coordinate the program.

8. A decrease of $400,000 to consolidate the Women and Minorities in Science, Technology, Engineering and Mathematics Fields ($400,000 available in 2014) as follows:

   The program is part of a government-wide initiative to consolidate science, technology, engineering, and mathematics (STEM) programs.

9. A net increase of $227,000 for Federal Extension Administration ($8,357,000 available in 2014) as follows:

   a. An increase of $995,000 for Other Federal Administration ($8,115,000 available in FY 2014) as follows:

      The pay cost increase is $216,000 which includes $52,000 for annualization of the fiscal year 2014 pay raise and $164,000 for the anticipated fiscal year 2015 pay raise. Funding is needed to support services in connection with the planning and coordination of all extension programs administered by NIFA. Base funding will provide partial support of pay costs for the staff necessary to administer a portfolio of research, education, and extension programs. NIFA's budget consists of numerous programs that award thousands of individual grants to colleges and universities and other eligible recipients. Grants management includes developing program regulations, establishing broad program goals, reviewing proposals, preparing grant documents, post-award review of progress, and similar activities necessary to achieve program goals.

   b. A decrease of $552,000 for Agriculture in the Classroom ($552,000 available in FY 2014) as follows:

      The program is part of a government-wide initiative to consolidate science, technology, engineering, and mathematics (STEM) programs.

   c. A decrease of $216,000 for operating efficiencies ($0 available 2014) as follows:

      As part of the Governmentwide efforts to promote efficient spending of Federal funds, NIFA will continue to monitor spending on travel, printing, supplies, and equipment and limit these costs when possible. NIFA will reduce agency travel costs by limiting individual staff travel and reducing peer panel costs. One example of reducing costs for peer panel travel includes replacing traditional panels with virtual panels. The printing of materials used for peer panels and other meetings will also be reduced. NIFA supply purchases, print publications, and orders of printed material will be monitored.

   Federal administration activities support all REE Action Plan Goals.

10. A decrease of $2,750,000 to eliminate funding for certain extension programs ($2,750,000 available in FY 2014) as follows:

	FY 2014 ($000)	Increase or Decrease ($000)	FY 2015 ($000)
Rural Health and Safety	$1,500	-$1,500	0
Food Animal Residue Avoidance Database	1,250	-1,250	0
Total	$2,750	-$2,750	0

A decrease is proposed to direct funding to higher priority activities, and is consistent with the Administration's policy to redirect available resources, as appropriate, from lower-priority areas to other science and technology activities. These programs can be supported by other funding sources, including other NIFA programs.

Table 1 for FY 2013 NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
Distribution of Federal Payments for Extension Activities

STATE	SMITH-LEVER FORMULA	PEST MGMT	FARM SAFETY	YOUTH FARM SAFETY	1890's UNIV & TUSK UNIV	FEDERALLY-RECOGNIZED TRIBES	EFNEP	YOUTH AT RISK	NEW TECHNOL O-GIES AT AG EXT	1890 FACILITIES	RENEWABLE RESOURCES	INDIAN TRIBAL 1994 COLLEGES	SUSTAINABLE AGRICULTURE	OTHER	TOTAL FEDERAL FUNDS
ALABAMA	$6,664,854	$195,000	-	-	$3,875,228	-	$2,104,337	$324,241	-	$1,931,871	$97,172	-	-	$178,909	$15,371,612
ALASKA	1,101,222	36,200	-	-	-	$149,000	256,298	-	-	-	67,185	$78,000	-	199,999	1,887,904
AMERICAN SAMOA	853,258	-	-	-	-	-	100,581	-	-	-	-	-	-	-	953,839
ARIZONA	1,959,920	250,000	-	-	-	504,000	611,934	240,000	-	-	110,973	156,500	-	-	3,833,327
ARKANSAS	5,595,314	-	$161,978	-	1,709,245	-	1,348,807	-	-	895,228	79,072	-	-	1,309,272	11,098,916
CALIFORNIA	7,049,778	276,455	162,000	-	-	78,000	3,077,534	225,000	-	-	76,946	-	-	292,306	11,238,019
COLORADO	2,943,159	189,500	162,000	-	-	-	601,234	80,000	-	-	54,762	-	-	259,000	4,289,655
CONNECTICUT	2,006,134	194,000	-	-	-	-	506,853	209,000	-	-	45,887	-	-	-	2,961,874
DELAWARE	1,198,653	174,200	162,000	-	1,115,017	-	399,927	-	-	685,691	56,887	-	-	849,675	4,642,050
DISTRICT OF COLUMBIA	1,173,160	-	-	-	-	-	101,883	-	-	-	11,000	-	-	-	1,286,043
FLORIDA	4,303,794	258,000	-	-	1,664,796	68,000	2,049,105	360,000	-	904,734	129,960	-	-	150,583	9,888,972
GEORGIA	7,356,101	210,000	-	-	2,326,379	-	2,168,094	120,000	-	1,018,185	87,059	-	$962,278	-	14,248,096
GUAM	908,419	24,235	-	-	-	-	100,612	-	-	-	11,000	-	-	-	1,044,266
HAWAII	1,233,322	121,695	-	-	-	-	334,066	53,623	-	-	45,887	-	-	-	1,788,593
IDAHO	2,610,046	107,000	-	-	-	232,054	364,501	120,000	-	-	50,324	-	-	-	3,483,925
ILLINOIS	9,024,252	227,800	-	-	-	-	2,025,105	-	-	-	51,212	-	-	-	11,328,369
INDIANA	8,260,039	300,000	724,055	-	-	-	1,194,090	7,067	-	-	49,438	-	-	258,000	10,792,689
IOWA	8,890,583	206,462	-	-	-	-	923,586	-	-	-	45,887	-	-	-	10,066,518
KANSAS	5,320,123	289,200	162,000	-	-	-	727,741	663,731	-	-	45,887	73,500	-	292,307	7,574,489
KENTUCKY	8,972,817	86,500	162,000	-	2,910,978	-	1,714,941	80,000	-	1,123,637	70,198	-	-	-	15,121,071
LOUISIANA	5,015,309	69,770	-	-	1,539,641	-	1,896,512	-	-	841,111	77,298	-	-	-	9,439,641
MAINE	2,108,644	140,000	149,144	-	-	-	482,311	120,000	-	-	57,424	-	-	95,086	3,152,609
MARYLAND	3,118,626	135,000	-	-	1,223,203	-	961,023	-	-	782,708	56,887	-	234,805	182,000	6,694,252
MASSACHUSETTS	2,491,085	132,200	-	-	-	-	973,314	120,000	-	-	45,887	-	-	-	3,762,486
MICHIGAN	8,378,854	230,633	-	-	-	83,000	1,720,023	80,000	-	-	65,410	179,500	-	-	10,737,420
MICRONESIA	946,398	-	-	-	-	-	101,091	-	-	-	-	-	-	-	1,047,489
MINNESOTA	8,508,051	344,754	161,888	-	-	75,500	1,002,557	1,140,125	-	-	63,874	338,000	962,278	377,633	12,974,660
MISSISSIPPI	6,515,440	128,000	-	-	1,832,111	69,000	1,759,681	-	-	900,178	84,397	-	-	-	11,288,807
MISSOURI	8,284,896	184,400	-	-	2,930,001	-	1,610,534	-	-	1,145,073	71,086	-	-	-	14,225,990
MONTANA	2,467,515	86,000	-	-	-	372,000	368,526	-	-	-	55,649	783,000	-	-	4,132,690
NEBRASKA	4,789,012	173,600	162,000	-	-	-	588,834	120,000	1,372,956	-	45,887	176,000	-	1,109,297	8,537,586
NEVADA	1,157,254	115,600	-	-	-	77,000	255,551	200,000	-	-	46,776	-	-	-	1,852,181
NEW HAMPSHIRE	1,573,439	87,900	-	-	-	-	314,433	-	-	-	45,887	-	-	-	2,021,659
NEW JERSEY	2,585,280	107,862	-	-	-	-	1,059,403	240,000	-	-	45,887	-	-	-	4,038,432
NEW MEXICO	2,015,024	65,000	-	-	-	144,000	559,813	-	-	-	58,312	430,000	-	-	3,272,149
NEW YORK	7,610,172	354,700	-	-	-	-	3,154,434	120,000	-	-	72,509	-	-	205,732	11,517,547
NORTH CAROLINA	11,103,001	169,000	161,978	-	3,325,571	79,000	2,511,490	400,000	-	1,137,940	85,284	-	-	150,583	19,123,847
NORTH DAKOTA	3,313,075	76,700	-	-	-	81,000	412,966	120,000	-	-	45,887	767,000	-	364,044	5,180,672
NORTHERN MARIANAS	835,319	-	-	-	-	-	100,556	-	-	-	-	-	-	-	935,875
OHIO	10,039,979	279,400	162,000	-	-	-	2,088,150	80,000	-	-	56,536	-	-	-	12,706,065
OKLAHOMA	5,160,452	94,500	162,000	-	1,784,010	68,000	1,153,106	-	-	951,107	63,099	-	-	-	9,436,274
OREGON	3,568,628	299,900	-	-	-	75,500	543,808	120,000	-	-	71,622	-	-	-	4,679,458
PENNSYLVANIA	9,568,936	329,150	162,000	300,000	-	-	2,543,174	120,000	-	-	69,847	-	16,171	186,879	13,296,157
PUERTO RICO	6,181,976	71,824	-	-	-	-	1,299,592	-	-	-	11,000	-	-	-	7,564,392
RHODE ISLAND	1,011,048	42,700	-	-	-	-	373,750	80,000	-	-	45,887	-	-	-	1,553,385
SOUTH CAROLINA	5,350,713	246,900	-	-	1,675,740	-	1,775,638	200,000	-	890,638	72,861	-	-	-	10,212,490
SOUTH DAKOTA	3,369,232	237,000	-	-	-	227,000	452,930	120,000	-	-	45,887	262,500	-	-	4,714,549
TENNESSEE	8,390,612	225,280	162,000	-	2,585,223	-	2,003,376	120,000	-	1,061,437	73,748	-	-	-	14,621,676
TEXAS	11,946,986	230,000	-	-	3,803,591	-	4,027,027	24,000	-	1,424,221	88,834	-	-	195,261	21,739,920
UTAH	1,687,060	70,000	162,000	-	-	-	377,477	-	-	-	47,662	-	1,021,803	-	3,366,002
VERMONT	1,689,236	109,000	162,000	-	-	-	312,758	-	-	-	45,887	-	962,278	-	3,281,159
VIRGIN ISLANDS	880,519	-	-	-	-	-	100,594	120,000	-	-	11,000	-	-	-	1,112,113
VIRGINIA	6,718,143	268,500	162,000	-	2,183,808	-	1,740,178	120,000	-	981,494	121,735	-	-	-	12,295,858
WASHINGTON	3,949,278	186,000	-	-	-	156,000	713,516	120,000	-	-	64,523	321,473	-	1,109,297	6,620,087
WEST VIRGINIA	3,904,435	-	-	-	1,242,506	-	1,090,065	360,000	-	800,018	63,988	-	-	-	7,461,012
WISCONSIN	8,209,297	232,755	162,000	-	-	67,000	965,472	-	-	-	63,635	254,000	-	-	9,954,159
WYOMING	1,491,364	80,300	154,743	-	-	83,000	270,216	-	-	-	48,550	-	-	-	2,128,173
PEER PANEL/CSAA	1,125	34,569	1,650	-	-	3,825	-	5,125	-	1,125	-	-	-	3,825	51,244
SUBTOTAL	263,360,361	8,785,144	3,783,436	300,000	37,727,048	2,691,879	62,375,108	6,731,912	1,372,956	17,476,396	3,277,378	3,819,473	4,159,613	7,769,687	423,630,391
FEDERAL ADMINISTRATION	7,108,278	366,048	170,143	-	1,571,960	112,162	306,588	280,496	57,206	728,183	136,557	159,145	173,317	8,207,160	19,377,243
OBLIGATIONS	270,468,639	9,151,192	3,953,579	300,000	39,299,008	2,804,041	62,681,696	7,012,408	1,430,162	18,204,579	3,413,935	3,978,618	4,332,930	15,976,847	443,007,634
BALANCE	800,808	-	-	-	-	-	-	-	-	-	-	-	-	-	800,808
TOTAL	271,269,447	9,151,192	3,953,579	300,000	39,299,008	2,804,041	62,681,696	7,012,408	1,430,162	18,204,579	3,413,935	3,978,618	4,332,930	15,976,847	443,808,442

Data may include 2013 obligations posted in 2014

OTHER

STATE	GRANTS TO YOUTH SERVING INSTITUTIONS	RURAL HEALTH & SAFETY	FEDERAL ADMINISTRATION	FOOD ANIMAL RESIDUE AVOIDANCE DATABASE	WOMEN AND MINORITIES IN STEM FIELDS	MANDATORY PROGRAMS	OTHER
ALABAMA	-	$178,909	-	-	-	-	$178,909
ALASKA	-	199,999	-	-	-	-	199,999
ARKANSAS	-	199,974	-	-	-	$1,109,298	1,309,272
CALIFORNIA	-	-	-	$292,306	-	-	292,306
COLORADO	-	-	-	-	$259,000	-	259,000
DELAWARE	-	-	-	-	-	849,675	849,675
FLORIDA	-	-	-	150,583	-	-	150,583
INDIANA	$258,000	-	-	-	-	-	258,000
KANSAS	-	-	-	292,307	-	-	292,307
MAINE	-	-	-	-	95,086	-	95,086
MARYLAND	182,000	-	-	-	-	-	182,000
MINNESOTA	-	-	-	-	-	377,633	377,633
NEBRASKA	-	-	-	-	-	1,109,297	1,109,297
NEW YORK	205,732	-	-	-	-	-	205,732
NORTH CAROLINA	-	-	-	150,583	-	-	150,583
NORTH DAKOTA	-	364,044	-	-	-	-	364,044
PENNSYLVANIA	-	186,879	-	-	-	-	186,879
TEXAS	-	195,261	-	-	-	-	195,261
WASHINGTON	-	-	-	-	-	1,109,297	1,109,297
PEER PANEL/CSAA	-	3,600	-	-	225	-	3,825
SUBTOTAL	645,732	1,328,666	-	885,778	354,311	4,555,200	7,769,687
FEDERAL ADMINISTRATION	26,906	55,361	7,883,423	36,907	14,763	189,800	8,207,160
SUBTOTAL OBLIGATIONS	672,638	1,384,027	7,883,423	922,685	369,074	4,745,000	15,976,847
UNOBLIGATED BALANCE	-	-	-	-	-	-	-
TOTAL	672,638	1,384,027	7,883,423	922,685	369,074	4,745,000	15,976,847

Data may include 2013 obligations posted in 2014

Table 2 for FY 2014
Distribution of Federal Payments for Extension Activities

STATE	SMITH-LEVER FORMULA	FARM SAFETY YOUTH FARM SAFETY EDUCATION AND CERTIFICATION	1890's UNIV & TUSKEGEE UNIV	FEDERALLY-RECOGNIZED TRIBES	EFNEP	YOUTH AT RISK	NEW TECHNOLOGIES AT AG EXT	1890 FACILITIES
FEDERAL ADMINISTRATION	8,258	184	1,757	122	517	336	62	789
UNOBLIGATED BALANCE	291,743	4,426	42,163	2,917	67,417	8,059	1,488	18,941
TOTAL	300,000	4,610	43,920	3,039	67,934	8,395	1,550	19,730

	RENEWABLE RESOURCES	RURAL HEALTH & SAFETY	FEDERAL ADM-SPECIAL PROJECTS	Extension Services at 1994 Institutions	Food Animal Residue Avoidance	Women and Minorities in STEM Fields	Mandatory Programs a/	TOTAL FEDERAL FUNDS
FEDERAL ADMINISTRATION	162	60	8,357	178	50	16	928	21,775
UNOBLIGATED BALANCE	3,898	1,440	-	4,268	1,200	384	22,272	470,616
TOTAL	4,060	1,500	8,357	4,446	1,250	400	23,200	492,391

a/ Mandatory Programs includes: Beginning Farmer and Ranchers Development, Risk Management

Table 3 for FY 2015
Distribution of Federal Payments for Extension Activities

STATE	SMITH-LEVER FORMULA	1890's UNIV & TUSKEGEE UNIV	FARM SAFETY YOUTH FARM SAFETY EDUCATION AND CERTIFICATION	FEDERALLY-RECOGNIZED TRIBES	EFNEP	YOUTH AT RISK	NEW TECHNOLOGIES AT AG EXT	1890 FACILITIES
FEDERAL ADMINISTRATION	8,258	1,757	184	122	517	336	70	789
UNOBLIGATED BALANCE	291,743	42,163	4,426	2,917	67,417	8,059	1,680	18,941
TOTAL	300,000	43,920	4,610	3,039	67,934	8,395	1,750	19,730

	RENEWABLE RESOURCES	FOOD SAFETY OUTREACH	FEDERAL ADM-SPECIAL PROJECTS	Extension Services at 1994 Institutions	Mandatory Programs a/	TOTAL FEDERAL FUNDS
FEDERAL ADMINISTRATION	162	100	8,584	178	1,000	22,056
UNOBLIGATED BALANCE	3,898	2,400	-	4,268	24,000	471,912
TOTAL	4,060	2,500	8,584	4,446	25,000	493,968

a/ Mandatory Programs includes: Beginning Farmer and Ranchers Development, Risk Management

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
EXTENSION ACTIVITIES

Classification by Objects

(Dollars in thousands)

	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Personnel Compensation:				
Washington D.C.	$11,564	$10,983	$11,005	$11,207
11.1 - Full-time employees	11,564	10,983	11,005	11,207
12.0 - Personnel Benefits	3,072	3,654	3,842	3,910
13.0 - Benefits for former personnel	241	31	0	0
Total, personnel comp. and benefits	14,877	14,668	14,847	15,117
Other Objects:				
21.0 - Travel & Transportation of Persons	691	714	835	835
22.0 - Transportation of Things	-	4	0	0
23.3 - Comm., Util., Misc. Charges	178	291	180	182
24.0 - Printing and Reproduction	25	7	28	28
25.1 - Advisory and Assistance Services	25	56	25	25
25.2 - Other Services from non-Federal sources	2,421	2,578	2,395	1,220
25.3 - Purchases of Goods and Services	-	25	0	0
25.4 - Oper & Maintenance of Facilities	1,672	1,571	1,689	1,663
25.5 - Research & Development Contracts	1,389	1,192	1,403	1,417
25.6 - Medical Care	2	77	2	2
26.0 - Supplies and Materials	86	63	125	125
31.0 - Equipment	48	19	48	48
41.0 - Grants, Subsidies & Contributions	481,765	421,297	479,909	473,306
Total, Other Objects	488,302	427,894	486,639	478,851
99.9 - Total, new obligations	503,179	442,562	501,486	493,968
Position Data:				
Average Salary (dollars), ES positions	$164,627	$173,125	$174,856	$176,605
Average Salary (dollars), GS positions	$91,979	$91,480	$92,395	$93,319
Average Grade, GS positions	11.4	11.6	11.6	11.6

EXTENSION ACTIVITIES:

Current Activities:

1. Smith-Lever 3(b) and (c). Federal contributions for cooperative extension work are primarily derived from Section 3(b) and (c) formula funds appropriated under the Smith-Lever Act of 1914. These funds comprise about two-thirds of the total Federal funding for extension activities. Federal funds are matched by non-Federal sources, primarily States and counties, and support the major educational efforts that are central to the mission of the Cooperative Extension System and common to most extension units, such as agricultural production; nutrition, diet, and health; natural resources and environmental management; community resources and economic development; family development and resource management; 4-H and youth development; and leadership and volunteer development. As a result of provisions contained in AREERA, States must expend 25 percent, or two times the level spent in FY 1997 (whichever is less), on cooperative extension activities in which two or more States cooperate to solve problems that concern more than one State. This also applies to activities that integrate cooperative research and extension.

2. Smith-Lever 3(d). Other sources of Federal funding for extension activities include the Smith-Lever section 3(d) or targeted funds, which are provided to the States to address special programs or concerns of regional and national importance and are distributed through administrative or non-statutory formulas and merit-reviewed projects. The following extension programs are funded under the Smith-Lever 3(d) funding mechanism: Expanded Food and Nutrition Education Program (EFNEP); Pest Management; Farm Safety and Youth Farm Safety Education and Certification; Children, Youth, and Families At Risk; Federally-Recognized Tribes Extension Program; Sustainable Agriculture; and New Technologies for Agricultural Extension. EFNEP funds are distributed on a formula basis and are not required to be matched. Funds under other Smith-Lever 3(d) programs are distributed on a competitive process.

3. Payments to the 1890 Land-Grant Institutions and Tuskegee University and West Virginia State University. Federal funding provides the primary support for the extension programs at the 1890 Land-Grant Institutions and Tuskegee University. The general provisions section 753 of Public Law 107-76 makes West Virginia State University eligible to receive funds under this program. This program primarily addresses the needs of small-scale and minority agricultural producers and other limited-resource audiences. Section 1444 of the 1977 Farm Bill provides that the funds made available to the 1890's for extension programs be distributed on the basis of a formula identical to the Smith-Lever 3 (b) & (c) formula. Section 7121of FCEA amended section 1444(a)(2) to require that funds appropriated for this program shall be not less than 20 percent of the Smith-Lever Act appropriation. The payment of funds under this program requires a 100 percent non-Federal match. These funds are used to maintain the extension infrastructure at the 1890 institutions and the partnership with the Cooperative Extension System.

4. 1890 Facilities Program. Federal funds provide the primary support for enhanced extension, research, and teaching facilities at all of the 1890 Land-Grant Institutions. Some examples of the use of funds include the renovation of office space and laboratories; much needed computer and equipment purchases; the acquisition of satellite downlinking and distance learning capabilities; and the construction of joint research and extension multi-purpose/conference centers. The 1890 Facilities Program enables the 1890 Land-Grant Institutions to improve their capacity and better address the needs of students, farmers, and rural populations with limited resources.

5. Renewable Resources Extension Act (RREA). RREA provides funding for expanded natural resource education programs. Funds are distributed primarily by an administratively-derived formula to all States for educational programs and projects and a limited number of special emphasis national programs. The Cooperative Extension System provides research-based education about renewable natural resources. Extension

education enables the management of renewable natural resources in a way that better serves individual land owners, local communities, and the Nation.

6. Rural Health and Safety Education. The program helps rural residents avoid the numerous obstacles to maintaining their health status. The program focuses on training health care professionals in rural areas.

7. Agriculture in the Classroom. The program helps advance agricultural literacy through a grassroots network of State coordinators, school teachers, agribusiness leaders, and other educators by supporting initiatives that include expanding outreach to underrepresented populations; regional demonstration projects; integration of information technology to reduce program delivery costs; and outstanding teacher recognition initiatives.

8. Extension Services at 1994 Institutions. The program provides funding for Native American communities and Tribal Colleges for extension activities as set forth in the Smith Lever Act. Funding is awarded on a competitive basis.

9. Food Animal Residue Avoidance Database Program. The program is a computer-based decision support system designed to provide livestock producers, extension specialists, and veterinarians with practical information on how to avoid drug, pesticide, and environmental contaminant residue problems.

10. Grants to Youth Serving Institutions. The program provides grants to the Girl Scouts of the United States of America, Boy Scouts of America, National 4-H Council, and the National Future Farmers of America Organization to expand the programs carried out by the organizations in rural areas and small towns.

11. Women and Minorities in Science, Technology, Engineering, and Mathematics (STEM) Fields. The program supports projects to increase the participation of women and underrepresented minorities from rural areas in STEM fields that are relevant to USDA. Priorities identified include: promotion of a safe, sufficient, and nutritious food supply for all Americans and for people around the world; sustainable agricultural policies that foster economic viability for small and mid-sized farms and rural businesses, protect natural resources, and promote value-added agriculture; national leadership in climate change mitigation and adaptation; building a modern workplace with a modern workforce; and support for 21st century rural communities.

Selected Examples of Recent Progress:

1. Smith-Lever 3(b) and (c). Over the past seven years, a University of Nebraska educator developed a network of farmers that adopted new, improved technologies for irrigation and water management. The network of more than 1,100 farmers and over 1.5 million acres of cropland has reduced the amount of irrigation by 114 billion gallons of water annually—enough water to supply a city the size of Tucson, Arizona, for a full year. The project, supported in part by Hatch Act and Smith-Lever funds, plans to include improving nutrient management, soil quality, and cost-benefit analysis to protect the environment and improve agricultural profitability as its next steps.

2. Smith-Lever 3(d). The Expanded Food and Nutrition Education Program (EFNEP) addresses some of the most pervasive societal challenges—hunger, malnutrition, poverty, and obesity—by providing practical, hands-on nutrition education to the poor. Each year, EFNEP peer educators teach more than a half million low-income families and youth how to change their behavior toward food. More than 80 percent of EFNEP families report living at or below 100 percent of the poverty level. The most recent national review of EFNEP data showed that 95 percent of EFNEP graduates improved the quality of their diets, 88 percent improved their nutrition practices, 86 percent stretched their food dollars farther, 66 percent handled their food more safely, and 28 percent increased their physical activity by at least 30 minutes each day. Multiple cost-benefit studies in past years show that every dollar invested in EFNEP results in $3.63 to $10.64 in saved health care costs and $2.48 saved in food expenditures. State success examples include: In Texas, the EFNEP adult program enrolled 20,700 families, while the youth program reached 80,700 children. A result of the Texas program stems from adopting smarter grocery shopping practices, which led to an estimated $1.2 million annual savings on grocery expenditures.

3. Federally-Recognized Tribes Extension Program (FRTEP). Montana State University's Fort Peck FRTEP established a Youth Activities Committee as an essential medium for youth to not only interact socially, but to gain valuable life skills enabling them to be successful in school, at home and in a social environment. The program developed a community indigenous garden project to promote healthy food consumption. As a result, participants' perspectives of nature, agriculture, and science were improved. The Fort Peck Tribes also have shown overwhelming support for the FRTEP program by allocating 100 acres of land for educational purposes and to create an atmosphere of cultural, modern, and community awareness. The land is used for the development of a youth recreation park, community garden, and outdoor recreational area to continue with educational efforts on the reservation. Program activities have cultivated a trust between the community and extension agents as a result of valuable information, training, and sustainability to the people located on the reservation.

4. 1890 Institutions. The Small Farm Training Institute in Maryland provides horticultural training and marketing of products to urban farmers who are new to farming and who have little or no agricultural experience. Annie's Project has expanded into a statewide program and has reached over 350 women and their farm operations. The University of Maryland Extension (UME) is a partner in training and business planning assistance to current and prospective shellfish growers. The University of Maryland Eastern Shore Small Farm Extension Program has designed and supervised construction of a new generation of high tunnels (greenhouse-like structures) for seven non-profit organizations and interested private companies. With local technical support through Baltimore City Extension, these seven non-profit groups and Big City Farms, LLC, have produced and marketed over 150,000 pounds of fresh local products through grocery stores, Whole Foods, restaurants, and farmers markets last year.

5. 1890 Facilities. Southern University in Louisiana is repairing and renovating A. O. Williams Hall to help to minimize the unsafe work environment and ensure health and safety of all: faculty, staff, clients, and other visitors to the building. Moreover, the construction of the greenhouses, acquisition and installation of technology equipment for the apparel & textile computer-aided design (CAD) laboratory (Phase II) will enable faculty to teach, and students to learn in a state-of-the-art environment to enhance their technological skills. Students will also learn and experience the use of analytical equipment which will significantly improve their research analytical capabilities. This CAD laboratory will also provide research and experiential learning opportunities for faculty and staff, while the greenhouses will serve as a research environment for faculty, staff, graduate and undergraduate students.

6. Renewable Resources Extension Act. A project at Tuskegee University in Alabama introduced forest landowners from underserved backgrounds to tree identification, wildlife management, sawmilling, and forestry resources management. The approach included a series of workshops, distribution of publications, and field visits. Altogether, over 200 direct and indirect contacts were made, resulting in increased knowledge on various techniques of how to market timber, choose a consulting forester, and manage sustainable forestry.

7. Agriculture in the Classroom. Last year Maine Agriculture in the Classroom (MAITC) maintained existing connections and volunteer and staff presentations while expanding our partners into more nutrition and physical education venues. They developed partnerships that led to the two new books and Activity Guides that are being used in 600+ classrooms through volunteers during National Ag Week in 2013-14. Last year they reached about 12,500 students directly in, a 25 percent increase from the previous year. That will continue to expand. In 2013 they added two intensive sessions. MAITC is also working closely with the Maine Farm 2 School Initiative to assist in providing supporting educational opportunities for teachers and students. Their partnership with the Department is stronger and they are collaborating on future strategies. One major outcome last year was that over 13000 Ag. Specialty license plates were sold generating over $130,000 for Ag Education in Maine. And overall 77,612 Maine students received Agricultural Education programs last year.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Integrated Activities

The estimates include appropriation language for this item as follows (new language underscored; deleted matter enclosed in brackets):

Integrated Activities

For the integrated research, education, and extension grants programs, including necessary administrative expenses, **[**$35,317,000,**]** $28,821,000, which shall be for the purposes, and in the amounts, specified in the table titled "National Institute of Food and Agriculture, Integrated Activities" [in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act)] in the report accompanying this Act: Provided, That funds for the Food and Agriculture Defense Initiative shall remain available until September 30, [2015] 2016.

Explanation of Change

The first change revises the explanatory statement wording to be more general as to apply to any appropriations act.

The second change revises the fiscal year to allow for two year availability of the 2015/2016 funding for the Food and Agriculture Defense Initiative.

INTEGRATED ACTIVITIES

Lead-Off Tabular Statement

Budget Estimate, 2015	$28,821,000
2014 Enacted	35,317,000
Change in Appropriation	-6,496,000

Summary of Increases and Decreases

(Dollars in thousands)

Program	2012 Actual	2013 Change	2014 Change	2015 Change	2015 Estimate
Discretionary Appropriations:					
Water Quality	$4,500	-$348	$348	-$4,500	0
Crop Protection/Pest Management	0	0	17,143	0	$17,143
Regional Pest Management Centers	4,000	-310	-3,690	0	0
Regional Rural Development Centers Program	998	-77	77	0	998
Food and Agriculture Defense Initiative (Homeland Security)	5,988	-463	1,155	0	6,680
Methyl Bromide Transition Program	1,996	-154	154	-1,996	0
Organic Transition Program	4,000	-310	310	0	4,000
Total, Appropriation or Change	21,482	-1,662	15,497	-6,496	28,821

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
INTEGRATED ACTIVITIES
Project Statement
Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Food Agriculture Defense Initiative (Homeland Security)	$5,988		$5,525		$6,680		-		$6,680	
Water Quality	4,500		4,152		4,500		-$4,500		-	
Crop Protection/Pest Management	-		-		17,143		-		17,143	
Regional Pest Management Centers	4,000		3,690		-		-		-	
Organic Transition Program	4,000		3,690		4,000		-		4,000	
Methyl Bromide Transition Program	1,996		1,842		1,996		-1,996		-	
Regional Rural Development Centers	998		921		998		-		998	
Subtotal	21,482	-	19,820	-	35,317	-	-6,496	-	28,821	-
Mandatory Appropriations:										
Specialty Crop Grant Programs Sec. 7311	50,000		-		80,000		-	-	80,000	
Organic Research Initiative Sec. 7206	20,000		-		20,000		-	-	20,000	
Subtotal	70,000	-	-	-	100,000	-	-	-	100,000	-
Total Adjusted Appropriation	91,482	8	19,820	6	135,317	9	-6,496	-	128,821	9
Rescissions, Transfers, and Seq. (Net)	-		1,662		-		-		-	
Total Appropriation	91,482	8	21,482	6	135,317	9	-6,496	-	128,821	9
Rescission	-		-582		-		-		-	
Sequestration	-		-1,081		-		-		-	
Bal. Available, SOY	416		494		487		-487		-	
Recoveries, Other(Net)	644		11		-		-		-	
Total Available	92,542	8	20,325	6	135,804	9	-6,983	-	128,821	9
Lapsing Balances	-482		0		-		-		-	
Bal. Available, EOY	-494		-487		-		-		-	
Total Obligations	91,566	8	19,838	6	135,804	9	-6,983	-	128,821	9

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
INTEGRATED ACTIVITIES

Project Statement

Obligations Detail and Staff Years (SYs)

(Dollars in thousands)

Program	2012 Actual		2013 Actual		2014 Estimate		Inc. or Dec.		2015 Estimate	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Food and Agriculture Defense Initiative (Homeland Security)	$5,838	-	$5,543	-	$6,901	-	-$221		$6,680	-
Water Quality	4,488	-	4,152	-	4,500	-	-4,500		-	-
Crop Protection/Pest Management	-	-	-	-	17,143	-	-		17,143	-
Regional Pest Management Centers	4,000	-	3,690	-	-	-	-		-	-
Organic Transition Program	4,000	-	3,690	-	4,000	-	-		4,000	-
Program	1,996	-	1,842	-	1,996	-	-1,996		-	-
Regional Rural Development Centers Program	998	-	921	-	998	-	-		998	-
International Science and Education Grants Program	246	-	-	-	266	-	-266		-	-
Subtotal	21,566	-	19,838	-	35,804	-	-6,983	-	28,821	-
Mandatory Obligations:										
Specialty Crop Grant Program	50,000	-	-	-	80,000	-	-	-	80,000	-
Organic Research Initiative	20,000	-	-	-	20,000	-	-	-	20,000	-
Subtotal	70,000	-	-	-	100,000	-	-	-	100,000	-
Total Obligations	91,566	8	19,838	6	135,804	9	-6,983	0	128,821	9
Lapsing Balances	482	-	-	-	-	-	-		-	-
Balance Available, EOY	494	-	487	-	-	-	-		-	-
Total Available	92,542	8	20,325	6	135,804	9	-6,983	0	128,821	9
Recoveries, Other (Net)	-644	-	-11	-	-	-	-		-	-
Rescission	-	-	582	-	-	-	-		-	-
Sequestration	-	-	1,081	-	-	-	-		-	-
Balance Available, SOY	-416	-	-494	-	-487	-	+487		-	-
Total Appropriation	91,482	8	21,482	6	135,317	9	-6,496	0	128,821	9

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Justification of Increases and Decreases

INTEGRATED ACTIVITIES

1. A decrease of $4,500,000 to eliminate Water Quality ($4,500,000 available in 2014) as follows:

   In 2015, NIFA continues to support competitive grants on water quality and quantity issues under AFRI's Water for Agriculture challenge area. This will allow efficiency in management and alignment of medium to long-term research goals with scientific opportunities and directions. The administration of the program activities under AFRI is a means to streamline the NIFA budget portfolio. This approach will facilitate the linking of agricultural science with broad biological science opportunities.

2. A decrease of $1,996,000 to eliminate Methyl Bromide Transition Program ($1,996,000 available in 2014) as follows:

   A decrease is proposed so funding can be directed to support higher priority activities, and is consistent with the Administration's policy to redirect available resources, as appropriate, and consistent with the agency mission, from lower-priority areas to other science and technology activities. Alternatives to methyl bromide research may be addressed through the Research and Education Activities' Minor Crop Pest Management, IR-4 program and a comprehensive integrated pest management strategy funded under the Integrated Activities' Crop Protection/Pest Management program. In addition to these funding options through NIFA grants, the Agricultural Research Service conducts in-house research to find solutions to pest control.

3. Sustained support for Organic Transition Program ($4,000,000 available in 2014) as follows:

   Base funding supports the development and implementation of biologically based management practices that mitigate the ecological, agronomic and economic risks associated with a transition from conventional to organic agricultural production systems. Program activities support REE Action Plan Goal 1.

4. Sustained support for Crop Protection/Pest Management ($17,143,000 available in 2014) as follows:

   Base funding for the Crop Protection/Pest Management (CP/PM) Program will develop and help end-users discover and implement effective, affordable, and environmentally-sound Integrated Pest Management (IPM) strategies to reduce economic, environmental, and societal losses caused by diseases, insects, weeds, and other pests that affect crops and livestock, and pests that affect human well-being and community vitality. The IPM strategies developed by the program will identify new science-based knowledge and optimize its use so that cultural methods, biological control, host plant resistance, and chemical control can be used affordably, effectively, and safely. A variety of tactics will be employed in an integrated strategy, including early detection, identification, monitoring, and implementation of biologically-based and area-wide approaches to manage key native and invasive species and postharvest pests that cost Americans hundreds of millions of dollars annually in control costs and lost productivity. The CP/PM Program will provide support for projects that respond to pest management challenges with coordinated state-based, region-wide and national research, education and extension programs, and will serve as a catalyst for promoting further development and use of IPM approaches. The result will be regional and national team building efforts, communication networks, and enhanced stakeholder participation.

   The CP/PM Program will provide support for research, extension and education through a mixture of national and regional competitive grant competitions that address five program areas as follows: plant protection tactics and tools, diversified IPM systems, enhancing agricultural biosecurity, IPM for sustainable communities, and development of the next generation of IPM scientists.

The Crop Protection/Pest Management program provides collaborative forums to direct research and extension activities, stakeholder driven applied research, and extension programs that facilitate the implementation of research discoveries. Program evaluation has been a focus, and a recent assessment of aggregated outcomes delivered by the Cooperative Extension System through the Extension IPM Coordination program reported over 300 positive outcomes from 2009-2013. More than half of those outcomes were changes in behavior to implement pest management practices that are more profitable, environmentally benign, or safe to the public.

The Crop Protection/Pest Management Program and the Interregional Research Project #4 Minor Crop Pest (IR-4) program develop new and improved practices to reduce producer costs and create opportunities for enhanced trade. Advances associated with new product registrations through the IR-4 program has contributed more than $7.2 billion to the U.S. economy. IR-4 develops data to harmonize the Good Laboratory Practices (GLP) review process to satisfy U.S. pesticide residue standards and allow more diverse data in product registration which can help to extend patents for registrants. The data generated also helps to supply acceptable products to satisfy the domestic specialty crop production market and export market as well, through establishing maximum residue limits (MRLs) that meet international standards. Program activities support REE Action Plan Goal 1.

5. Sustained support for Regional Rural Development Centers ($998,000 available in 2014) as follows:

Base funding will provide support to four regional centers in Pennsylvania, Mississippi, Utah, and Michigan. Programs are designed to improve the social and economic well-being of rural communities in their respective regions. The RRDCs play a unique role in USDA's service to rural America. They link the research and educational outreach capacity of the nation's public universities with communities, local decision-makers, entrepreneurs, families, and farmers and ranchers to help address a wide range of development issues. They collaborate on national issues that span regions—like e-commerce, the changing interface between rural, suburban, and urban places, and workforce quality and jobs creation. Each tailors programs to address particular needs in its region. Priorities include strengthening regional economic development, balancing the use of our nation’s natural resources, building disaster-resilient communities, increasing rural broadband adoption and education, assessing and educating on community behavioral health planning, and supporting local and regional food systems. These funds are distributed according to the extent of the problem that requires attention in each state. Program activities support REE Action Plan Goal 7.

6. Sustained support for Food and Agriculture Defense Initiative ($6,680,000 available in 2014) as follows:

Base funding will support the National Plant Diagnostic Network and National Animal Health Laboratory Network to identify and respond to high risk biological pathogens in the food and agricultural system. The networks will be used to increase the ability to protect the Nation from plant and animal disease threats through surveillance, early detection, mitigation, and recovery functions.

Extension Disaster Education Network (EDEN) is a national effort led by state Cooperative Extension Service (CES) to provide disaster education resources for CES educators to assist farmers and other public sectors in the event of disasters, including agricultural disasters. USDA agencies provide well-coordinated emergency and disaster response to communities, individuals and property during and after events such as floods, tornados, hurricanes, and other disasters. USDA authorities cover response and relief across the full rural landscape of wild lands, Tribal lands, communities, open space, farms and ranches.

Through the Cooperative Extension System and EDEN, funded in part through Smith Lever (b) & (c) and the Food and Agriculture Defense Initiative, NIFA provides a linkage to local educators and local media outlets across the country to decrease the impact of disasters through education. Cooperative Extension transforms important federal disaster information into locally appropriate messages and couples it with existing science based information. This results in more appropriate private and local response and recovery by the citizenry, communities, and local governments. Program activities support REE Action Plan Goal 1.

TABLE 1 - FISCAL YEAR 2013

STATE	HOMELAND SECURITY	METHYL BROMIDE	ORGANIC TRANSITION RISK ASSESSMENT	REGIONAL PEST MANAGEMENT CENTERS	RURAL DEVELOPMENT CENTERS	WATER QUALITY	TOTAL FEDERAL FUNDS
ALABAMA	0	0	0	0	0	0	0
ALASKA	0	0	0	0	0	0	0
AMERICAN SAMOA	0	0	0	0	0	0	0
ARIZONA	$166,000	0	0	0	0	0	$166,000
ARKANSAS	0	0	0	0	0	0	0
CALIFORNIA	618,400	$331,775	0	$877,739	0	0	1,827,914
COLORADO	166,000	0	0	0	0	$649,000	815,000
CONNECTICUT	0	0	0	0	0	333,058	333,058
DELAWARE	0	0	0	0	0	0	0
DISTRICT OF COLUMBIA	0	0	0	0	0	0	0
FLORIDA	618,400	0	$460,937	0	0	412,000	1,491,337
GEORGIA	166,000	0	0	0	0	0	166,000
GUAM	0	0	0	0	0	0	0
HAWAII	0	0	0	0	0	0	0
IDAHO	166,000	436,530	0	0	0	0	602,530
ILLINOIS	0	0	0	877,738	0	0	877,738
INDIANA	489,030	0	0	0	0	0	489,030
IOWA	0	0	0	0	0	0	0
KANSAS	482,400	979,946	0	0	0	0	1,462,346
KENTUCKY	30,000	0	0	0	0	0	30,000
LOUISIANA	166,000	0	0	0	0	0	166,000
MAINE	0	0	0	0	0	0	0
MARYLAND	0	0	0	0	0	0	0
MASSACHUSETTS	0	0	0	0	0	842,000	842,000
MICHIGAN	550,400	0	464,482	0	$218,996	640,000	1,873,878
MICRONESIA	0	0	0	0	0	0	0
MINNESOTA	30,000	0	718,225	0	0	0	748,225
MISSISSIPPI	30,000	0	0	0	218,995	0	248,995
MISSOURI	0	0	0	0	0	0	0
MONTANA	0	0	0	0	0	0	0
NEBRASKA	30,000	0	0	0	0	0	30,000

TABLE 1 - FISCAL YEAR 2013

STATE	HOMELAND SECURITY	METHYL BROMIDE	ORGANIC TRANSITION RISK ASSESSMENT	REGIONAL PEST MANAGEMENT CENTERS	RURAL DEVELOPMENT CENTERS	WATER QUALITY	TOTAL FEDERAL FUNDS
NEVADA	0	0	0	0	0	0	0
NEW HAMPSHIRE	0	0	0	0	0	0	0
NEW JERSEY	30,000	0	0	0	0	0	30,000
NEW MEXICO	30,000	0	0	0	0	0	30,000
NEW YORK	653,400	0	0	877,738	0	429,000	1,960,138
NORTH CAROLINA	166,000	0	370,749	877,738	0	0	1,414,487
NORTH DAKOTA	0	0	0	0	0	0	0
NORTHERN MARIANAS	0	0	0	0	0	0	0
OHIO	30,000	0	0	0	0	0	30,000
OKLAHOMA	0	0	0	0	0	638,000	638,000
OREGON	30,000	0	0	0	0	0	30,000
PENNSYLVANIA	30,000	0	0	0	218,996	0	248,996
PUERTO RICO	0	0	0	0	0	0	0
RHODE ISLAND	0	0	0	0	0	0	0
SOUTH CAROLINA	0	0	0	0	0	0	0
SOUTH DAKOTA	30,000	0	0	0	0	0	30,000
TENNESSEE	30,000	0	0	0	0	0	30,000
TEXAS	166,000	0	719,379	0	0	0	885,379
UTAH	30,000	0	0	0	218,996	0	248,996
VERMONT	0	0	0	0	0	0	0
VIRGIN ISLANDS	0	0	0	0	0	0	0
VIRGINIA	0	0	0	0	0	0	0
WASHINGTON	166,000	0	749,661	0	0	0	915,661
WEST VIRGINIA	0	0	0	0	0	0	0
WISCONSIN	166,000	0	0	0	0	0	166,000
WYOMING	30,000	0	0	0	0	0	30,000
BIOTECH	7,600	0	1,200	0	0	1,140	9,940
SBIR	0	15,911	31,886	31,886	7,955	35,871	123,509
PEER PANEL	0	3,714	26,320	0	0	5,625	35,659
FED ADMIN	0	73,661	147,618	147,618	36,831	166,071	571,799
SUBTOTAL	5,303,630	1,841,537	3,690,457	3,690,457	920,769	4,151,765	19,598,615
UNOBLIGATED BALANCE	220,985	0	0	0	0	0	220,985
TOTAL	5,524,615	1,841,537	3,690,457	3,690,457	920,769	4,151,765	19,819,600

Data may include 2013 obligations posted in 2014.

TABLE 2 - FISCAL YEAR 2014
INTEGRATED PROGRAMS

STATE	Methyl Bromide	Organic Transition Risk Assessment	Crop Protection/Pest Management Programs	Rural Development Centers	Water Quality	Homeland Security	TOTAL FEDERAL FUNDS
SBIR	17,348	34,765	148,993	8,674	39,110	-	248,890
BIOTECH RISK	1,820	-	1,200	-	-	-	3,020
FEDERAL ADMIN OBLIGATED	79,840	160,000	685,720	39,920	180,000	267,200	1,412,680
UNOBLIGATED	1,896,992	3,805,235	16,307,087	949,406	4,280,890	6,412,800	33,652,410
TOTAL	1,996,000	4,000,000	17,143,000	998,000	4,500,000	6,680,000	35,317,000

TABLE 3 - FISCAL YEAR 2015
INTEGRATED PROGRAMS

STATE	Crop Protection/Pest Management	Organic Transition Risk Assessment	Homeland Security	Rural Devlopment Centers	TOTAL FEDERAL FUNDS
SBIR	154,314	36,006	-	8,984	199,304
BIOTECH RISK	1,200	-	-	-	1,200
FEDERAL ADMIN OBLIGATED	685,720	160,000	267,200	39,920	1,152,840
UNOBLIGATED	16,301,766	3,803,994	6,412,800	949,096	27,467,656
TOTAL	17,143,000	4,000,000	6,680,000	998,000	28,821,000

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
INTEGRATED ACTIVITIES

Classification by Objects

(Dollars in thousands)

	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Personnel Compensation:				
Washington D.C.	$2,009	$443	$770	$788
11.1 - Full-time employees	2,009	443	770	788
12.0 - Personnel Benefits	542	127	140	142
13.0 - Benefits for former personnel	32	0	0	0
Total, personnel comp. and benefits	2,583	570	910	930
Other Objects:				
21.0 - Travel & Transportation of Persons	107	22	25	35
23.3 - Comm., Util., Misc. Charges	27	14	230	232
24.0 - Printing and Reproduction	4	403	4	-
25.1 - Advisory and Assistance Services	4	4	66	67
25.2 - Other services from non-Federal sources.	381	109	1,712	1,552
25.3 - Purchases of Goods and Services	-	2	2	2
25.4 - Oper & Maintenance of Facilities	325	66	67	68
25.5 - Research & Development Contracts	279	54	55	56
26.0 - Supplies and Materials	15	2	22	-
31.0 - Equipment	9	1	16	16
41.0 - Grants, Subsidies & Contributions	87,832	18,591	132,695	125,863
Total, Other Objects	88,983	19,268	134,894	127,891
99.9 - Total, new obligations	91,566	19,838	135,804	128,821
Position Data:				
Average Salary (dollars), ES positions	$164,627	$173,125	$174,856	$176,605
Average Salary (dollars), GS positions	$91,979	$91,480	$92,395	$93,319
Average Grade, GS positions	11.4	11.6	11.6	11.6

INTEGRATED ACTIVITIES:

Current Activities:

1. Programs currently funded under the Integrated Activities account are Water Quality, Regional Pest Management Centers, Methyl Bromide Transition Program, and Organic Transition Program. Per Section 406 of AREERA, grants are awarded on a competitive basis to support integrated, multifunctional agricultural research, extension, and education activities. The Regional Rural Development Centers programs are administered under this account and are conducted under the authority of Section 2(c)(1)(B) of Public Law 89-106, as amended (7 U.S.C. 450i(c)) and Title V of the Rural Development Act of 1972 (Pub. L. 92-419), which enables the agency to support research, extension or education activities.

2. Food and Agriculture Defense Initiative (FADI). The FADI Program under the authority of Section 1484 of the Farm Security and Rural Investment Act of 2002 also is funded under this account. This program provides support for the National Plant Diagnostic Network and the National Animal Health Laboratory Network to identify and respond to high risk biological pathogens in the food and agricultural system. The network is used to increase the ability to protect the Nation from plant and animal disease threats by providing surveillance, early detection, mitigation, and recovery functions that serve to minimize the threats. The funds also are used to support the Extension Disaster Education Network.

Selected Examples of Recent Progress:

1. Water Quality Program. Water Quality Program. New outreach programs for local land use decision makers were formed in New York (Hudson River Valley), Maryland, Missouri, Virginia, and Washington. Programs are under development or consideration in Arkansas, New Jersey, New Mexico, New York (Upstate), Oklahoma, Massachusetts, Nebraska, and Puerto Rico. Program funds were leveraged to procure an additional $210,000 in funds from the National Oceanic and Atmospheric Administration's Coastal Institute for Coastal and Estuarine Environmental Technology. They provided technical and topical training to over 250 outreach educators and researchers through various workshops, trainings, and conferences in over 30 states from the Extension, Sea Grant, and other networks.

2. Regional Pest Management Centers (RPMC). The RPMC support adoption of integrated pest management (IPM) in schools through regional work groups. Since 2006, the work groups have leveraged $4.4 million to support school IPM demonstrations and school district coalitions impacting over 4.5 million students and 400,000 school staff across the U.S. For example: The Southern IPM Center work groups are providing growers with IPM information on spotted wing drosophila for Florida strawberries and blueberries, herbicide-resistant weeds in Georgia, target spot disease on cotton in Alabama; and integrated weed management in Florida. The Northeastern IPM Center's StopPests.org website, provides comprehensive resources for IPM training in Public Housing Authorities. In 2013, the site received over 36,272 page views and had over 12,179 individual visitors. The Center's StopBMSB.org website, the primary tool for reaching audiences nationwide about the invasive Brown Marmorated Stink Bug, had over 93,562 page views, 26,555 individual visitors, and 9,082 video downloads in 2013.

3. Methyl Bromide. Georgia scientists are identifying, evaluating, and providing recommendations for the use of non-fumigant pesticides in plastic-mulch vegetable beds as alternatives to traditional soil fumigants such as methyl bromide. The loss of methyl bromide requires alternative methods for control of weeds, nematodes, and soilborne diseases. Studies indicated that purple nutsedge could be effectively controlled by combinations of non-fumigant herbicides. In addition, non-fumigant nematicide and fungicides provided similar root-knot and disease control as methyl bromide. Combinations of non-fumigant nematicide, fungicides, and herbicides could be viable alternatives to fumigants for control of soilborne pests and weeds. These are more environmentally-

safe best management alternatives which will significantly reduce losses from soilborne diseases and weeds in vegetable production.

4. Organic Transition Program. The University of Florida is developing sustainable whole-farm systems for organic pecan production in the Southeast. Primary barriers facing organic production are being addressed such as control of insect pests like the pecan weevil and pecan aphids, and control of diseases like pecan scab. Methods for insect pest and disease management include biological control, organic insecticides and fungicides, and resistant cultivars. Scientists also are assessing and comparing treatment impacts on biodiversity. An advanced systems-based on-farm research approach will be implemented at five locations in the region, including three commercial farms. Socio-economic analysis will determine the profitability of selected strategies and measure project outcomes. This has significant economic implications on the pecan industry.

5. Food and Agriculture Defense Initiative Program. The National Plant Diagnostic Network (NPDN) is a 50-state network of land grant university-based plant diagnostic laboratories. The network is led by diagnostic laboratory centers at Cornell University (New York), University of Florida, Kansas State University, Michigan State University, and University of California at Davis. These institutions receive direct funding from NIFA and provide support to the other land grant plant diagnostic laboratories in their region through subcontracts, training, and leadership. Because of this, plant laboratories in every State receive Federal funding and other support from the five NPDN centers. All 50 States and many U.S. territories are connected to the NPDN through digital distance diagnostics, used throughout the Nation to speed early detection of high consequence plant pathogens and solve other agricultural problems. This web-based diagnostics system allows plant diagnosticians in one location to transmit a digital image across the country to someone with special expertise. Plant disease (and insect) detection criteria have been developed for soybean rust, sudden oak death, Ralstonia stem rot, plum pox virus, pink hibiscus mealybug, potato wart, huanglongbing (citrus greening), Potato Cyst Nematode, Late Blight, Beet Curly Top, Citrus Leprosis and Citrus Blackspot. In fiscal year 2013, NPDN established System for True, Accurate and Reliable (STAR-D), a lab accreditation program for NPDN diagnostic laboratories. The program creates quality assurance measures across the broad spectrum of participating NPDN laboratories. STAR-D is undergoing activities to further implement and refine the accreditation process, external audit procedures, and quality standards.

   The National Animal Health Laboratory Network (NAHLN) is a national network of non-Federal public animal diagnostic laboratories under the leadership of NIFA, Animal and Plant Health Inspection Service (APHIS), and the American Association of Veterinary Laboratory Diagnosticians. NAHLN is part of a national strategy to coordinate the Nation's Federal, State and university laboratory resources. It has 12 core laboratories that receive NIFA support located at Cornell University (New York), Louisiana State University, University of Georgia, Texas A&M, University of Wisconsin, Iowa State University, Colorado State University, Washington State University, University of California at Davis, University of Arizona, North Carolina Department of Agriculture and Consumer Services, and Florida Department of Agriculture and Consumer Services. In addition to these core laboratories, NIFA provides funding for laboratories in 16 other States: Oregon, Utah, New Mexico, Wyoming, South Dakota, Nebraska, Kansas, Minnesota, Mississippi, Tennessee, Indiana, Michigan, Kentucky, Ohio, Pennsylvania, and New Jersey. Animal disease-detection criteria have been developed for the following high-consequence diseases: Foot-and-Mouth Disease, Exotic Newcastle Disease, Classical Swine Fever (or hog cholera), High Pathogen Avian Influenza, Low Pathogen Avian Influenza, Bovine Spongiform Encephalopathy, Scrapie, Chronic Wasting Disease, Rift Valley Fever, African Swine Fever, Swine Influenza Virus, Swine Pseudorabies Virus, and Vesicular Stomatitis Virus which was added in fiscal year 2013. Also, a new assay for Foot-and-Mouth Disease in milk samples is being evaluated by members of the NAHLN for deployment to the network.

   NIFA leads the Extension Disaster Education Network (EDEN) which is a collaborative multistate effort by Cooperative Extension services across the country to decrease the impact of disasters such as agricultural, natural, man-made, and human health disasters through research-based education. NIFA leads this effort. EDEN developed an educational and training program entitled "Strengthening Community Agrosecurity Planning (S-CAP)." These workshops build capacity to handle agricultural issues during an emergency, improve networking among local stakeholders who plan for and respond to emergencies, and establish or enhance agrosecurity components within existing local emergency operations plans. As of 2013, 43 workshops have been held in 22 states with more than 1,100 participants.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Summary of Budget and Performance
Statement of Department Goals and Objectives

The mission of NIFA is to lead and invest in agricultural research, education and extension to solve societal challenges. NIFA's success depends on:

- Integrity: We value individual and organizational diversity and transparency; we honor our promises and follow through on our commitments; and we promote ethical, inclusive and unbiased behavior internally and with partners.
- Transformation: We are forward-looking, creative, visionaries and problem-solvers; we encourage risk-taking that leads to new ideas and innovative solutions; and we are committed to the next generation and dissemination of new knowledge.
- Impact: We are passionate about promoting relevant, value-added programs and services; we are action-oriented and accountable for exemplary performance in all we do; and we are committed to driving outcomes that matter to the American people and to the world.
- Engagement: We work with partners and other stakeholders to identify and address programmatic needs; and we work with partners to implement and improve programs.

NIFA has one strategic goal and seven strategic Objectives (Sub-goals) that contribute to the four USDA Strategic Goals and provide research, education, and extension to support the Department in meeting Agency Priority Goals.

Several new measures are being developed by NIFA in each of the Strategic Goal areas. NIFA is gathering the new data in FY 2014 on these new measures from FY 2013 grant reports from which to establish baselines to be able to estimate targets for future years.

USDA Strategic Goal 1: Assist rural communities to create prosperity so they are self-sustaining, repopulating and economically thriving.

Objective 1.1: Enhance Rural Prosperity, Including Leveraging Capital Markets to Increase Government's Investment in Rural America

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	Subgoal 1.1. Advance our ability to achieve global food security and fight hunger.	Extension Research Integrated Higher Education	Key Outcome: Expanded economic opportunities in Rural America and increased knowledge pertaining to economic diversification, community planning, service infrastructure, local government, youth/adult workforce planning, and civic engagement through innovative integrated research and extension projects targeted to regional business, economic and business development.

Key Performance Measures and Targets:

The number of farmers and ranchers that gained an economic, environmental or quality-of-life benefit from a change in practice learned by participating in a SARE project							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Cumulative number	11,488	12,436	12,800	13,905	14,775	15,500	17,100

Number of college graduates prepared for the professional and technical workforce in the food and agricultural industry							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Number per Year	N/A	N/A	N/A	29,300	29,300	30,700	32,230

The number of individuals with prior military service who participate in research and educational initiatives that lead to increased farm-related opportunities for military Veterans							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
	N/A	N/A	N/A	N/A	N/A	N/A	500

Selected Past Accomplishments toward Achievement of the Key Outcome:

Farmers want reliable information before risking change in a risky business, and patient public investment in agricultural science helps generate the information they need. NIFA's Sustainable Agriculture Research and Education (SARE) program's early investment in innovative cover crop research, coupled with sustained educational outreach, is yielding dividends today. The popularity of cover cropping—which improves soil and protects water while reducing irrigation, fertilizer, and herbicide use—had been booming, even before the 2012 drought further demonstrated how this practice can protect farmers' fields and profitability. In 1993, SARE compiled research results into its first book, *Managing Cover Crops Profitably*, which has become the "go to" source for information on cover crops and is still relevant today. To date, more than 30,000 hard copies have been distributed, with a comparable number downloaded from the Internet.

Washington State University Extension (WSU) professionals design and deliver programs that lead to specific and measurable changes in management practices on land and water resources of the state. WSU Extension programs reached 2,882 landowners and managers that indicated increased knowledge of forest stewardship practices, and 2,190 landowners and managers indicated they have implemented at least one new practice on their land. The Extension programs directly impacted 486,115 acres. Program participants estimate execution of practices on 10 percent of their ownership, with a cost earnings or savings estimate of $26,406,000. As a result of implementing forest stewardship and health practices, air and water quality has been protected by reducing wildfire risk and run-off of sediments into streams and lakes and public health threats due to smoke inhalation has been curtailed from these family forests. Additionally, quality of life improvement is suggested by the 94 percent of survey respondents who reported an increased enjoyment of their land, and 97 percent reported that they feel better equipped to successfully steward their land.

Workshops delivered to farmers in the region by University of Minnesota Extension illustrated the importance of planning, and provided concrete strategies for creating a transfer plan. A total of 95.4 percent of participants stated that as a result of attending one of the workshops, they would begin the process of developing and implementing a transfer and estate plan. A follow-up evaluation showed that 68.5 percent started a transition plan, and 27 percent completed and implemented that plan. Therefore, the value of assets protected after receiving education from Extension was $1,689,609, including owned land, livestock equipment and machinery. Weighted average total for non-farm/ranch assets for participant families was $187,714. Total financial impact of protected rural poverty can be assessed at $384,300,000.

Retention of jobs is often more economical than replacing or creating new ones. Extension staff in Missouri provided technical assistance programs in fundraising, cultural competency, financial planning, and volunteer management to help nonprofit organizations in Missouri leverage resources and increase the value of their dollar invested in employees. Projects with communities in several regions with a significant Hispanic immigrant population formed collaborations to provide services and support for those working in the area. An effort to revitalize a community betterment organization in one rural community resulted in the engagement of a new generation of business leaders committed to making the community a better place to live with new programs that increase recreational opportunities and celebrate the heritage of the community. In northeast Missouri, $3,723,750 was generated through grants and contracts with local organizations creating and/or sustaining the equivalent of at least 90 jobs in the region.

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:

New investment in public-private partnerships for Innovation Institutes as recommended by a President's Council of Advisors and Technology (PCAST) report will create a network of public-private agricultural "innovation institutes," to leverage the strengths of government scientists and commercial interests. These will be multi-disciplinary innovation institutes focused on emerging challenges to agriculture, to be supported by public-private partnerships. The research focus of each innovation institute will be on problems in the public domain, but where private sector participation can be important in advancing the research goals and also deploying the research outcomes.

A continued investment in the Sustainable Agriculture Research and Education (SARE) grant program will assist in the creation or enhancement of State sustainable agriculture research, extension, and education programs; and will leverage State and/or private money, and build the long-term capacity to guide the evolution of American agriculture to a more highly productive sustainable system. SARE helps farmers and ranchers adopt practices that are profitable, environmentally sound, and good for communities. Much of SARE research has been focused on locally grown products.

Funding will support activities that:

- •Integrate sustainable agriculture in all State research, extension, and education projects;
- •Support new research at sustainable agriculture centers at the nation's land grant and other colleges and universities;
- •Build stronger State-wide farmer-to-farmer networks and outreach and technical assistance strategies;
- •Incorporate sustainable agriculture studies and curriculum in undergraduate and graduate degree programs.

The NIFA-sponsored Cooperative Extension programs at the Land-Grant Universities will provide key leadership and educational offerings and trainings developed and administered through programs to provide local businesses, farmers, governments, community institutions and local residents with access to trusted sources of information. This will include education and technical assistance that will guide them in their broadband and e-commerce adoption decisions. Extension will also support the sustainability and profitability of plant and animal production systems by:

- Preparing youth, families and individuals for success in the global workforce and all aspects of life.
- Creating pathways to energy independence.
- Ensuring an abundant and safe food supply for all.
- Assisting in effective decision-making regarding environmental stewardship.
- Assisting communities in becoming sustainable and resilient to the uncertainties of economics, weather, health, and security.

- Helping families, youth and individuals to become physically, mentally, and emotionally healthy.

Objective 1.2: Increase Agricultural Opportunities by Ensuring a Robust Safety Net, Creating New Markets, and Supporting a Competitive Agricultural System

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	(Continued) Subgoal 1.1. Advance our ability to achieve global food security and fight hunger.	Extension Research Integrated Higher Education	Key Outcome: Increased efficiency of the agricultural production system by: (1) expanding information to model feed utilization for animal species, (2) releasing new or improved varieties or germplasm with enhanced pest or disease resistance, (3) further understanding the biological role of gene sequences in plants, animals, microbes and insects

Key Performance Measures and Targets:

The number of new drought and disease resistant varieties of wheat and barley to reach commercialization.							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Number Per Year	N/A	N/A	N/A	3	4	4	5

Selected Past Accomplishments toward Achievement of the Key Outcome:
The AFRI Wheat Coordinated Agricultural Project (WheatCAP) being led by the University of California, Davis implemented genetic Marker Assisted Selection (MAS) strategies for quality and disease resistance traits across the U.S. public breeding programs. The project generated approximately 1,000,000 MAS data points that were used to develop 90 new germplasm lines and cultivars and thousands of improved lines for breeding. The WheatCAP provided a stimulating learning environment that supported training of 117 undergraduates and 73 graduate students, many of which are being hired as breeders in companies and public institutions.

The Ohio State University wheat breeding program released a new wheat cultivar called OH04-264-58. This cultivar has competitive yield in Ohio, good resistance to prevailing Ohio diseases, and has strong gluten. LOH04-264-58 has a unique gene that imparts strong gluten and stable gluten strength, so it is suitable for use by Ohio millers. One Ohio based miller used nearly 1,500,000 bushel of strong gluten wheat (Soft Red Winter Wheat) in 2010, with plans to expand the program to approximately 3,000,000 bushels annually with the right cultivar. Assuming a premium of $0.40 per bushel, then a strong gluten SRWW like OH04-264-58 is worth $600,000 to $1,200,000 annually to Midwest growers, primarily in Ohio. In addition, sourcing the strong gluten wheat locally will save the Ohio based miller millions of dollars annually in freight charges.

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:

For each goal and objective, funds provided through AFRI will fund agriculturally-relevant discovery and applied research and provide the foundation upon which current and future solutions are built and will sustain the disciplines needed to ensure agricultural science remains vibrant and useful over time. This funding is expected to bring a wide array of agriculturally related disciplines back to international leadership by supporting the high risk, but potentially high reward, research of individual investigators and small teams.

The AFRI Global Food Security program will fund grants to address two intertwined areas: food availability and food accessibility. Research, education, and extension focused on food availability will increase food production and reduce losses from the farm and ranch to the consumer by controlling important animal diseases and plant pests. Research, education and extension focused on food accessibility will address the emerging demand for resilient and secure food systems, resulting in a decrease in the number of food insecure individuals, families, and communities. It is expected that work funded through this program will have relevance for both domestic and international populations. Adequate food availability implies that the population has a reliable source of food from domestic or international production. Domestic and international food security is achieved when food availability and food accessibility goals are met successfully. The long-term outcomes for this program are to increase global food availability through increased sustainable food production and to decrease the number of food insecure individuals, families, and communities by addressing key constraints to food accessibility and implementing solutions that enhance sustainable food systems. To achieve these outcomes, this program will support single-function Extension Projects, multi-function Integrated Research, Education, and/or Extension Projects, and Food and Agricultural Science Enhancement (FASE) Grants that address one of the Program Area Priorities.

Objective 1.3: Contribute to the Expansion of the Bioeconomy by Supporting Development, Production, and Consumption of Renewable Energy and Biobased Products

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	Subgoal 1.4. Enable U.S. energy independence through the development of sustainable bioenergy feedstocks and value-added bio-based industrial products.	Extension Research Integrated Higher Education	Key Outcome: Expanded science-based knowledge and technologies to generate high-quality products and processes by: (1) increasing knowledge of bioenergy and biomass conversion, (2) creating new commercially viable and marketable alternative crops, and alternative markets for non-food products from existing crops

Key Performance Measures and Targets:

Number of new bio-based products successfully patented.							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Number per Year	N/A	N/A	N/A	6	5	5	6

Selected Past Accomplishments toward Achievement of the Key Outcome:
It is important to utilize biorefinery lignin to make high value products to improve the economics and environmental impact of energy production. The University of Tennessee has been producing lignin from locally grown feedstocks. This lignin is being processed in a manner to tailor it to carbon fiber production, which can have immediate and meaningful effects on making biorefining economically feasible, having the potential to contribute an additional $4 billion annually to rural economies.

In support of developing new biofuel industries, a researcher at North Dakota State University initiated an energy beet development program. Hatch and Smith-Lever funds were used to establish regional energy beet yield trials, initiate a juice storage study, test the conversion technology commercially, and conduct grower education meetings. To date, more than 20 presentations and workshops have been delivered across the state in cooperation with local Extension agents to inform producers, rural communicates and industry of the opportunity. Materials also have been drafted for national distribution on www.eXtension.org. Green Vision Group is now evaluating two sites for construction of demonstration plant. Construction of a commercial plant is expected in 2012. This plant will require 30,000 acres of energy beets providing growers with a $200 net income premium over competing crops. Each plant is expected to create 25 new jobs in rural communities. Positive encouragement and private funding support for the project has been received from MonDak sugarbeet growers, Syngenta, Beta Seed, Garrison Diversion, ND Irrigation Association, Green Vision, Great River Energy, Amity, and AgCountry Farm Credit Services.

Oklahoma State University is developing the practices and technologies necessary to ensure efficient, sustainable, and profitable production of cellulosic ethanol feedstocks. This project addresses the needs and concerns of diverse stakeholders both within the cellulosic biorefinery industry and within the public at large. Utilizing large-scale feedstock production research, the economic and environmental sustainability of switchgrass, mixed-species perennial grasses, and annual biomass cropping systems is being evaluated. Preliminary results show that biomass produced from the most cost efficient bermudagrass, lovegrass, and flaccidgrass systems would be from 20 percent to 26 percent more costly than biomass produced from the most cost efficient switchgrass system.

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:
The AFRI Sustainable Energy program will fund grants targeting the development of regional systems for the sustainable production of bioenergy and biobased products that: contribute significantly to reducing dependence on foreign oil; have net positive social, environmental, and rural economic impacts; and are integrated with existing agricultural systems. Key components of the implementation of these grants are integrated research, education, and extension/technology transfer activities. These grants will be support the startup and growth of a network of regional bioenergy centers focusing on dedicated energy crops and advanced non-ethanol infrastructure-compatible fuels and biobased products. The long-term outcome for this program is to implement regional systems that materially deliver liquid transportation biofuels to help meet the Energy Independence and Security Act (EISA) of 2007 goal of 36 billion gallons/year of biofuels by 2022 and reduce the National dependence on foreign oil. In order to achieve this outcome, this program will support single-function Research and Education Projects, multi-function Integrated Research, Education, and/or Extension Projects, and Food and Agricultural Science Enhancement (FASE) Grants that address one of the Program Area Priorities.

USDA Strategic Goal 2: Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.

Objective 2.1: Improve the Health of the Nation's Forests, Grasslands, and Working Lands by Managing our Natural Resources

Objective 2.2: Lead Efforts to Mitigate and Adapt to Climate Change, Drought, and Extreme Weather in Agriculture and Forestry

Objective 2.3: Contribute to Clean and Abundant Water by Protecting and Enhancing Water Resources on National Forests and Working Lands

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	Subgoal 1.2. Advance the development and delivery of science for agricultural, forest, and range systems which are adapted to climate variability and change and can mitigate climate impacts. Subgoal 1.3. Optimize the production of goods and services from working lands while protecting the nation's natural resource base and environment.	Research Higher Education Extension Integrated	Key Outcome: Expanded and disseminated science-based knowledge and information for management of the nation's natural resources and environment, including soil, air and water, in agricultural, forest, and range working lands and ecosystems.

Key Performance Measures and Targets:

Metric Tons of CO2 equivalents sequestered per hectare per year by U.S. cropping agriculture							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Number Per Year	N/A	N/A	N/A	0.2	0.2	0.3	0.4

Percentage of farmers using best management practices on major cropping systems to conserve, protect and/or manage their water resources							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Percentage	N/A	N/A	N/A	13	14	14	16

Selected Past Accomplishments toward Achievement of the Key Outcome:
Washington State University (WSU) Extension professionals design and deliver programs that lead to specific and measurable changes in management practices on land and water resources of the state. WSU Extension programs impacted 486,115 acres of land, reaching 2,882 landowners and managers that indicated increased knowledge of forest stewardship practices, and 2,190 landowners and managers who indicated they have implemented at least one new practice on their land. Program participants estimate execution of practices on 10 percent of their ownership, with a cost earnings or savings estimate of $26,406,000.

In Kansas, three watersheds were targeted for rapid implementation of best management practices (BMPs) for atrazine herbicide, a pollutant. An education and demonstration program, surface water monitoring plan, and incentive program for atrazine BMP implementation were developed and delivered to the targeted watersheds. Twenty educational meetings were conducted to train 617 farmers and pesticide dealers. Ninety-five farmers

implemented atrazine BMPs on a total of 23,000 corn and grain sorghum acres. An automated surface water monitoring system was installed in the streams at the base of the watersheds targeted for BMP implementation and also at the base of two adjoining watersheds. Water quality monitoring of treated and untreated watersheds found 51 percent lower atrazine concentrations, in streams in targeted watersheds in which BMPs had been implemented. Outcomes included 25 farmers committing to implementing BMPs on 138 crop fields (4,810 acres) resulting in a reduction in annual sediment delivery to streams in the watershed from 9,219 tons to 2,926 tons.

Reports from the Urban Tree Canopy (UTC) Program provide jurisdictional level canopy and land cover information and identify specific parcels and zoning classes where jurisdictions can target programs to increase tree canopy coverage. Ecosystem benefits of the urban canopy are emphasized through educational programs. The ecosystem service benefits associated with UTC can be quantified, and provide long-term benefits. Fairfax County, Virginia, estimates that urban trees provide the following ecosystem benefits: $261/acre annually in air pollution benefits; $231/acre each year in energy conservation; and more than $25,000/acre in storm water management benefits.

Researchers at the University of Tennessee studied the spread and ecology and of invading exotic plant species to minimize future losses of forest amenities and native diversity in Tennessee. Methods of increasing oak seedling success, factors that facilitate and slow the spread of exotic plants in Tennessee forests, and techniques for increasing the success of reforestation and rates of forest recovery on reclaimed mine sites were tested and evaluated. Results and knowledge gained from the study have the potential to decrease the nearly $137 billion annual cost of invasive species in the U.S. due to the loss of hundreds to thousands of dollars of long-term value per acre when forests cleared for surface mining are not successfully restored.

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:
AFRI research on Water and Watersheds funded by NIFA will seek to protect and enhance the natural resource base and environment by improving and maintaining healthy watershed habitat and water supply protection, and improve the quality of life in rural America through clean irrigation and livestock drinking water supplies. Research will focus on biotechnical improvements in water use efficiency of crop and horticultural plants to yield greater "crop per drop," and probe the human, social, and economic dimensions of agricultural water security with a focus on adoption-outreach.

AFRI research projects on Agriculture and Natural Resources Science for Climate Variability and Change focus on the societal challenge to adapt agroecosystems and natural resource systems to climate variability and change and implement mitigation strategies in those systems. Specific program areas are designed to achieve the long-term outcome of reducing the use of energy, nitrogen, reducing greenhouse gas emissions from practices, and water in the production of food, feed, fiber, and fuel and increase carbon sequestration. Project types supported by AFRI include multi-function Integrated Research, Education, and/or Extension Projects and Food and Agricultural Science Enhancement (FASE) Grants.

Goals include:

- Develop or improve management options that will mitigate the impacts of agroecosystems on climate variability and change while maintaining or improving agroecosystem productivity.
- Develop or improve management strategies, models and technologies that facilitate adaptation to climate variability and change while maintaining or improving agroecosystem productivity.
- Develop or improve knowledge of how human behavior, decision, and choices affect carbon, nitrogen, water, and energy use and how that behavior may be effectively changed to advance sustainable outcomes.
- Create educational activities that develop human capital relevant to mitigation and adaption goals.
- Develop extension and outreach programs to deliver science-based knowledge and informal educational programs to various communities relevant to mitigation and adaptation goals.

USDA Strategic Goal 3: Help America Promote Agricultural Production and Biotechnology Exports as America Works to Increase Food Security

Objective 3.1: Ensure U.S. Agricultural Resources Contribute to Enhanced Global Food Security

Objective 3.2: Enhance America's Ability to Develop and Trade Agricultural Products Derived from New and Emerging Technologies

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	(Continued) Subgoal 1.1. Advance our ability to achieve global food security and fight hunger.	Research Higher Education Extension Integrated	Key Outcome: Expanded international economic development and trade capacity building through: (1) partnerships between U.S. and counterpart faculty in developing or transitioning countries to strengthen science applications and (2) technical assistance provided to these countries to support market and agricultural sector development.

Selected Past Accomplishments toward Achievement of the Key Outcome:
The intensive production of field, vegetable, and fruit crops has contributed to reduced soil health, lower crop productivity and farm profitability, and greater environmental impacts from runoff and erosion. Until now, growers have had no way to measure and assess critical factors such as aggregate stability, available water capacity, organic matter, or root health. The Cornell University Soil Health Team established an inexpensive test for integrated soil health assessment, which provides advanced understanding of soil health throughout the Northeast and is generating management changes on farms. The project has received international attention (notably Australia, India, South Africa, Singapore, and Jamaica) where there is interest in adopting these methodologies. This research has translated into a commercial soil health test that provides critical management information for farmers.

Relatively little attention has been given to the role of international trade and comparative advantage as it relates to climate change. A researcher at Oregon State University explored how global climate change will affect the location of agricultural production and patterns of trade. This activity identified various roles of certain countries in international trade transactions, with attention to making the transitions and alleviating the costs associated with climate change. This research found that countries' welfare would decline only very modestly if yield amounts decreased but variability was allowed in the international trade market. However, if trade barriers are enacted such that trade volumes are restricted to current volumes, it is predicted that a great deal of suffering would likely occur.

Aquaculture is expected to provide sources of income from new productions and add values to existing commodities in Micronesia. Extension agents in Micronesia facilitated public displays of products from aquaculture projects, hands-on training, on-site visits and broadcasted information via local radio stations. Communities have been educated on the importance and contribution of aquaculture for the country's food security and economic development. Of special note are pearl and sea cucumber projects that have received immediate attention from domestic and overseas stakeholders and international journals on high quality products and skill training methodologies.

Data were analyzed at Oregon State University to determine the causes and consequences of narrowing productivity gap among nations. This research activity focused on the role of the public sector in alleviating the likely market failures in aiding productivity growth and the opening global markets for U.S. products. Technological leadership in food manufacturing industries was assessed using an internationally comparable database on 35 developed and developing economies. Despite consistently high productivity levels in the U.S., several countries appear to be catching up to the U.S. productivity level at a rapid pace, suggesting erosion in U.S. comparative advantage in food

manufacturing industries. The findings identified and emphasized the fact that the U.S. confronts difficult choices in funding agricultural and food research. In contrast, emerging and other high-income economies with flexible budgets and low external debt have been increasing investments in green technologies and agriculture. This has major implications for public policy, as global leadership in emerging green technologies and consequent producer competitiveness and consumer welfare critically depends on facilitating and investing resources in, where market failures abound, agricultural research and development.

Selected Accomplishments Expected at the 2015 Proposed Resource Level:
Grants to higher education institutions will train students at the baccalaureate, masters and doctorate level to expand human capital development in emerging areas (i.e. biotechnology, food systems, economics and marketing, etc.). As a result, workforce ready graduates with core competencies in sustainable sciences will be able to respond to the national needs in the Economics and Trade arena through the AFRI Program.

USDA Strategic Goal 4: Ensure that all of America's children have access to safe, nutritious, and balanced meals

Objective 4.1: Improve Access to Nutritious Food

Objective 4.2: Promote Healthy Diet and Physical Activity Behaviors

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	Subgoal 1.5. Combat childhood obesity by ensuring the availability of affordable, nutritious food and providing individuals and families science-based nutritional guidance.	Research Higher Education Extension Integrated	Key Outcome: New knowledge that clarifies dietary health relationships in order to support better dietary recommendations and improved food products

Key Performance Measures and Targets:

Dietary improvements by EFNEP participants (percent of EFNEP participants making dietary improvements)							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Percent of Participants Per Year	95%	94%	94%	95%	95%	95%	95%
Number of Adult Program Participants in EFNEP							
	147,043	137,814	134,446	130,485	130,485	133,700	137,000
Number of Youth Program Participants in EFNEP							
	444,875	463,530	506,156	479,398	479,398	491,400	503,400

Selected Past Accomplishments toward Achievement of the Key Outcome:
A researcher from Colorado State University won the 2011 Presidential Early Career Award for Scientists and Engineers for her research in childhood obesity prevention. The "Mighty Moves" project is an 18-week program where preschoolers engage in activities aimed at enhancing gross motor development and increasing structured physical activity opportunities in the classroom. Equally important, the program addressed the physical and nutritional education needs of parents and teachers. The program targeted these "secondary influencers" who are the most direct role models of young children.

The "An Ounce of Prevention" program in Nevada educates and motivates participants to make lifestyle modifications to prevent or delay the onset of diabetes and related complications. The objectives of this program have been effective in teaching participants at making dietary changes, increasing physical activity and improved diabetes knowledge, consistent with the Diabetes Prevention Program study. Analysis of self-reported post and pre-tests showed a 67 percent increase in physical activity and a 64 percent decrease in TV watching. Changes in dietary choices resulted in decreased amounts of fried food (65 percent) and increased choosing of low-fat over high-fat foods (69 percent). The combination of positive changes balanced between physical activity and healthy diet meets the objectives of the program and serves to educate those at highest risk of diabetes in a more comprehensive manner than simply educating on exercise and diet separately.

The Farm to School Program is a public-private collaboration between Florida A&M University and New North Florida Cooperative designed to encourage school district participation allowing schools to have access to fresh, local/regional fruits and vegetables produced by small-scale farmers while guiding school feeding programs toward promoting healthy eating habits among children. Through this program, 13 Florida school districts serving 300,000 school children improved nutritional value of school meals due to incorporating local and regional fresh produce. Schools purchased approximately 100,000 lbs. of fresh produce grown by small and medium-sized farmers. Additionally, the accomplishments and impact of Farm to School activities over the past few years was used to demonstrate effectiveness and played a major role in providing substantive evidence that subsequently led to the signing of Farm to School Funding into law.

NIFA's Expanded Food and Nutrition Education Program (EFNEP) addresses some of our most pervasive societal challenges—hunger, malnutrition, poverty, and obesity—by providing practical, hands-on nutrition education to the poorest of the poor. Each year, EFNEP peer educators teach more than a half million low-income families and youth how to change their behavior toward food. More than 80 percent of EFNEP families report living at or below the poverty threshold, and nearly 70 percent indicate being of minority status. The most recent national review of EFNEP data showed that 95 percent of EFNEP graduates improved the quality of their diets, 88 percent improved

their nutrition practices, 86 percent stretched their food dollars farther, 66 percent handled their food more safely, and 28 percent increased their physical activity by at least 30 minutes each day.

A research project in Illinois investigated the metabolic products from tomato carotenoids such as lycopene, phytoene, and phytofluene, in mammalian tissues. Human CMO-I is a carotenoid cleavage enzyme that is confirmed to cleave beta-carotene at a certain location to form Vitamin A, but acyclic carotenoids, such as lycopene, are poor substrates for this enzyme. Thus, the researchers investigated the ability to cleave acyclic carotenoids to Human CMO-II, also a carotenoid cleavage enzyme. Through such research, they established novel carotenoid-accumulating E. coli strains that will provide invaluable tools for researchers studying tomato carotenoids. In addition, they developed a method to detect lycopene metabolic products more efficiently. Overall, this research can have a large impact on finding ways to use acyclic carotenoids with multiple conjugated double bonds in the CMO-II expressing tissues to serve as antioxidants, which are hypothesized to reduce the risk of cancer and cardiovascular disease.

Generation of new fat cells (adipogenesis) and activation of oxidative stress in adipose tissue are known to be the major etiology of obesity and its related inflammatory diseases. Curcumin, a bioactive food component has recently been proposed to be a potential anti-obesity dietary component. However, its efficacy and effective dosage in preventing the development of obesity in animals is varying depending on the study designs and the obesity status of experimental animals. Understanding how curcumin modulates the biochemical and molecular events in adipose tissue development during the course of obesity would provide potential opportunities to understand the effective use of curcumin to lower obesity. Purdue University researchers have elucidated molecular basis underlying curcumin-inhibited adipogenesi, with results suggesting that curcumin effectively controls the molecular and cellular activities related to obesity. This research could provide potentially valuable insight into a safe, healthy method of using a bioactive compound to fight obesity.

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:
AFRI projects will focus on identifying the behavioral factors that influence obesity; developing valid behavioral and environmental instruments for measuring progress in obesity prevention efforts; and, nutrition research that leads to the development and evaluation of effective programs to prevent obesity.

AFRI requests for proposals will address the micro-nutrient content of new cultivars. An expansion of plant breeding activities will result in genetically mapping and improving the nutritional value of staple crops, fruits, and vegetables. In addition, plant breeding can expand the availability and potentially reduce the cost of nutrient-dense foods, thus expanding access to healthy diets.

With level funding in EFNEP, all 1862 and 1890 institutions will be able to maintain and sustain the program outreach in addition to support and training from the Federal partner. Funding will be used to assist low-income families and youth to acquire the knowledge, skills, and attitudes, necessary to assist with positive behavior change for nutritionally sound diets, to contribute to their personal development, and to improve the family's overall dietary quality and well-being. Peer educators, members of the communities they support, will use a research-based, interactive approach to reach over a half million new limited-resource audience families and youth each year.

Objective 4.3: Protect Public Health by Ensuring Food is Safe

Objective 4.4: Protect Agricultural Health by Minimizing Major Diseases and Pests to Ensure Access to Safe, Plentiful, and Nutritious Food

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 1: Catalyze exemplary and relevant research, education and extension programs.	Subgoal 1.6. Reduce the incidence of food-borne illness and provide a safer food supply.	Research Higher Education Extension Integrated	Key Outcome: Reduced incidence or prevalence of food borne illnesses and contaminants through increased knowledge and/or the development of mitigation, intervention, or prevention strategies via research or integrated research, education, and extension projects in the following food safety areas: pre-harvest food production and transportation, post-harvest processing and distribution, retail preparation and distribution, and consumer preparation, consumption, and behavior.

Key Performance Measures and Targets:

The cumulative number of specific plant diseases labs are prepared to detect							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Cumulative number	10	10	11	11	12	12	13

The cumulative number of specific animal diseases labs are prepared to detect							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Cumulative number	9	10	10	11	11	12	13

Selected Past Accomplishments toward Achievement of the Key Outcome:
The National Plant Diagnostic Network (NPDN) developed links to laboratories in every State. NIFA funding has enabled the NPDN to increase the cumulative number of specific plant diseases labs within the network are prepared to detect from three in 2004 to twelve in 2013.

NIFA helped fund and provided leadership to establish the National Animal Health Laboratory Network (NAHLN) NIFA funding has helped enable the NAHLN to increase the cumulative number of specific animal diseases labs within the network are prepared to detect from six in 2004 to eleven in 2013.

In Fiscal Year 2013, NPDN established STAR-D, a lab accreditation program for NPDN diagnostic laboratories. The program creates quality assurance measures across the broad spectrum of participating NPDN laboratories. STAR-D is undergoing activities to further implement and refine the accreditation process, external audit procedures, and quality standards. Key to the success of the program has been the collaborative partnerships among the participating LGUs and the American Association of Veterinary Laboratory Diagnosticians. Accreditation signifies that a laboratory has met essential requirements and standards which results in uniform test results, handling and reporting. One laboratory was accredited last year with plans for an additional two in FY 2014.

A Tennessee State University research project has developed an innovative approach for integrating food safety education into preventive health care for adults over 60. This project works with health care providers to develop, evaluate, and deliver food safety educational materials for older adults. A website was developed for nurses and caregivers with information on food safety that can be printed off and used for short lessons or as handouts. The website received over 11,000 hits in 6 months with over 3,000 pages printed.

E. coli O104:H4 is a newly recognized strain of bacteria that was responsible for over 30 foodborne illness related deaths in Germany in 2011. While this strain has not yet caused foodborne illness in the United States, it caused 20 percent more deaths worldwide than other strains of *E. coli.* Researchers at Michigan State University are investigating why this strain causes such severe illness and effective strategies for preventing them. Also, researchers at the University of Nebraska and Kansas State University are evaluating the ability of the German strain to infect the gastrointestinal tract of cattle. This NIFA-funded research is critical to understanding the threat of this new strain to public health and the U.S. food supply.

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:

In addition to continuing risk reductions and increased efficiencies of traditional NIFA Integrated Pest Management Programs, the National Plant Diagnostic Network expects to make significant progress, which builds on past accomplishments and includes:

- Increasing the ability of laboratories in all 50 States to rapidly and accurately diagnose plant pathogens of regional and national interest through improved diagnostic equipment, training, and methods;
- Improving the biocontainment, biosafety, and biosecurity of regional diagnostic centers and other partner laboratories; and
- Increasing the utilization of non-public National Agricultural Pest Information Systems data for the early detection of bio-terrorism related, accidental, or natural outbreaks that have the potential to threaten the nation's plant resources, trade position, or consumer confidence.

NIFA will sponsor AFRI food safety projects specifically targeting emerging issues in food safety, particularly produce and food and agricultural defense. Goals include:

- Improve the safety of the food supply through developing and implementing effective strategies that prevent or mitigate food-borne contamination, including food processing technologies, resulting in a reduction in the incidence of food-borne illness, while preventing future food-borne outbreaks.
- Promote the development and adoption of detection technologies for food-borne pathogens and other contaminants in foods, which are sensitive, specific, rapid, economical, easily-implemented, and usable under a variety of conditions, including use in the field.
- Reduce negative public health and economic impacts through the development and demonstration of effective traceability systems that track the source, movement, critical tracking events (CTEs), storage, and control of contaminated food and food ingredients from production to consumption.
- Increase the number of food safety scientists, as well as scientists who are cross trained in environmental science, animal science, microbiology, genetics, epidemiology, economics, social science, food science, engineering, and public health, to provide a holistic approach to ensuring the safety of the food supply, from pre-harvest through consumption.

USDA Strategic Goal 5: Create a USDA for the 21st Century that is high-performing, efficient, and adaptable

Objective 5.3: Maximize the return on taxpayer investment in USDA through enhanced stewardship activities and focused program evaluations

Agency Strategic Goals	Agency Objectives	Programs that Contribute	Key Outcomes
Agency Goal 3: Institutionalize streamlined, effective technology, policies, and processes.	Develop consistent review processes and procedures for all programs (competitive and non-competitive) and develop enhanced business practices for managing and processing grants across the agency	NIFA Institutes and Offices	Key Outcome: Reduce operational costs and improve customer service through the use of a grant processing model to schedule workload while optimizing workflow and reducing bottlenecks (e.g., year-end award processing).

Key Performance Measures and Targets:

Efficiency Measure: Competitive grant proposal review time in days (from receipt of proposal to award)							
	2009 Actual	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Target**	**2015 Target**
Number of Days	188	184	184	190	190	181	171

Selected Past Accomplishments toward Achievement of the Key Outcome:
NIFA has embarked on a complete overhaul of its grants management system. To date NIFA has completed:

- Staff trained in business process analysis tools and techniques
- Presentation of Concept model to senior management
- Contractor support to work on process mapping and validation
- Alignment of level 1 and level 2 process maps with an associated project on grants management system modernization
- Level 2 process maps (flow diagrams) completed
- Level 3 process maps (flow diagrams with roles and process meta data) completed for program setup and receipt of applications
- Started a fit-gap analysis of its grants management system to the grants management system of the National Institutes of Health

Selected Accomplishments Expected at the FY 2015 Proposed Resource Level:
An increase in the grants management system will enable NIFA to complete its fit-gap analysis and develop and implement the modernization of its grant management system. NIFA's goal is to have a robust, up-to-date IT infrastructure and well-defined modern business process in place to support internal customers for planning, prioritizing, and executing daily operations, thus improving efficiency and external customer service.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Full Cost by Department Strategic Goal
(Dollars in thousands)

Department Strategic Goal: Assist Rural Communities to Create Prosperity So They Are Self Sustaining, Repopulating, and Economically Thriving

Program / Program Items	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Research				
Program	$242,616	$226,581	$256,072	$301,752
Administrative costs (direct)	6,469	6,041	6,828	8,046
Indirect costs	3,640	3,400	3,842	4,527
Total Costs	252,725	236,022	266,742	314,325
FTEs	85	80	85	96
Education				
Program	53,900	50,405	54,492	44,932
Administrative costs (direct)	1,437	1,344	1,453	1,198
Indirect costs	809	756	818	674
Total Costs	56,146	52,505	56,763	46,804
FTEs	19	18	18	14
Extension				
Program	339,723	313,901	335,441	335,278
Administrative costs (direct)	9,059	8,371	8,945	8,941
Indirect costs	5,096	4,708	5,032	5,029
Total Costs	353,878	326,980	349,418	349,248
FTEs	124	115	113	109
Integrated				
Program	958	884	958	958
Administrative costs (direct)	26	24	26	26
Indirect costs	14	13	14	14
Total Costs	998	921	998	998
FTEs	-	-	-	-
Endowment Funds				
Program	11,880	11,880	11,880	21,880
Total Costs	11,880	11,880	11,880	21,880
Mandatory Programs:				
Risk Management Education				
Program	4,800	4,555	4,800	4,800
Administrative costs (direct)	128	122	128	128
Indirect costs	72	68	72	72
Total Costs	5,000	4,745	5,000	5,000
Beginning Farmers and Ranchers Program				
Program	18,240	-	19,200	19,200
Administrative costs (direct)	486	-	512	512
Indirect costs	274	-	288	288
Total Costs	19,000	-	20,000	20,000
Total Costs, Strategic Goal	699,627	633,053	710,801	758,255
Total FTEs, Strategic Goal	228	213	216	219

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Full Cost by Department Strategic Goal
(Dollars in thousands)

Department Strategic Goal 2: Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources

Program / Program Items	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Research				
Program	116,481	112,013	126,438	137,161
Administrative costs (direct)	3,106	2,987	3,372	3,658
Indirect costs	1,747	1,680	1,897	2,057
Total Costs	121,334	116,680	131,707	142,876
FTEs	41	39	42	44
Extension				
Program	50,035	46,231	49,404	49,380
Administrative costs (direct)	1,334	1,233	1,318	1,317
Indirect costs	751	693	741	741
Total Costs	52,120	48,157	51,463	51,438
FTEs	17	16	16	16
Integrated				
Program	4,320	3,986	4,320	-
Administrative costs (direct)	115	106	115	-
Indirect costs	65	60	65	-
Total Costs	4,500	4,152	4,500	-
FTEs	2	2	2	-
Total Costs, Strategic Goal	177,954	168,989	187,670	194,314
Total FTEs, Strategic Goal	60	57	60	59

Department Strategic Goal 3: Help America promote agricultural production and biotechnology exports as America works to increase food security

Program / Program Items	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Research				
Program	$182,588	$186,164	$212,782	$214,961
Administrative costs (direct)	4,870	4,965	5,675	5,733
Indirect costs	2,738	2,791	3,191	3,223
Total Costs	190,196	193,920	221,648	223,917
FTEs	64	65	70	67
Extension				
Program	662	614	655	657
Administrative costs (direct)	18	17	17	17
Indirect costs	10	9	10	10
Total Costs	690	640	682	684
FTEs	-	-	-	-
Integrated				
Program	15,345	14,157	28,626	26,710
Administrative costs (direct)	409	378	764	712
Indirect costs	230	212	429	401
Total Costs	15,984	14,747	29,819	27,823
FTEs	-	1	10	9

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Full Cost by Department Strategic Goal
(Dollars in thousands)

Mandatory Programs:				
Biomass Research and Development				
Program	38,400	-	2,880	2,880
Administrative costs (direct)	1,024	-	77	77
Indirect costs	576	-	43	43
Total Costs	40,000	-	3,000	3,000
Organic Research Initiative Sec. 7206				
Program	19,200	-	19,200	19,200
Administrative costs (direct)	512	-	512	512
Indirect costs	288	-	288	288
Total Costs	20,000	-	20,000	20,000
Biodiesel Fuel Education Program				
Program	960	-	960	960
Administrative costs (direct)	26	-	26	26
Indirect costs	14	-	14	14
Total Costs	1,000	-	1,000	1,000
Community Food Projects Competitive Grants Program				
Program	4,800	4,800	4,800	8,640
Administrative costs (direct)	128	128	128	230
Indirect costs	72	72	72	130
Total Costs	5,000	5,000	5,000	9,000
Specialty Crop Grant Programs Sec. 7311				
Program	48,000	-	76,800	76,800
Administrative costs (direct)	1,280	-	2,048	2,048
Indirect costs	720	-	1,152	1,152
Total Costs	50,000	-	80,000	80,000
Total Costs, Strategic Goal	322,870	214,307	361,149	365,424
Total FTEs, Strategic Goal	64	66	80	76

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Full Cost by Department Strategic Goal
(Dollars in thousands)

Department Strategic Goal 4: Ensure that all of America's children have access to safe, nutritious and balanced meals

Program / Program Items	2012 Actual	2013 Actual	2014 Estimate	2015 Estimate
Research				
Program	86,323	85,400	96,753	110,257
Administrative costs (direct)	2,302	2,277	2,580	2,940
Indirect costs	1,295	1,281	1,451	1,654
Total Costs	89,920	88,958	100,784	114,851
FTEs	30	30	32	35
Extension				
Program	65,755	60,756	64,923	64,893
Administrative costs (direct)	1,754	1,620	1,731	1,731
Indirect costs	986	911	974	973
Total Costs	68,495	63,287	67,628	67,597
FTEs	23	21	22	21
Integrated				
Program	-	-	-	-
Administrative costs (direct)	-	-	-	-
Indirect costs	-	-	-	-
Total Costs	-	-	-	-
FTEs	-	-	-	-
Total Costs, Strategic Goal	158,415	152,245	168,412	182,448
Total FTEs, Strategic Goal	53	51	54	56
Total Cost, All Strategic Goals	1,358,866	1,168,594	1,428,032	1,500,441
Total FTEs, All Strategic Goals	405	387	410	410

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Report on Anticipated RFA Publication Date

Information on the publication schedule for NIFA Requests for Applications (RFAs) is included below, as required by a directive from the FY 2013 House Report on the Agriculture Appropriations Bill. The scope of the final RFA will depend upon the final appropriations levels enacted by Congress. The actual publication dates may change due to factors such as amount and timing of appropriations, unexpected delays in the review process, and science developments. For the most up-to-date AFRI RFA publication schedule, please refer to the NIFA website at: http://nifa.usda.gov/funding/rfas/afri.html.

The anticipated RFA publication dates are provided for Other Competitive Programs. The Expected FY 2015 RFA Publication Dates for AFRI are 8/1/2014 through 12/31/2014. Funding amounts reflect funding amounts anticipated for programs excluding Interagency programs, and legislative set asides for programs such as the Small Business Innovation Research program.

FY 2015 President's Budget for the Agriculture and Food Research Initiative

The U.S. Department of Agriculture (USDA) established the Agriculture and Food Research Initiative (AFRI) competitive grants program, under which the Secretary of Agriculture may make competitive grants for fundamental and applied research, education, and extension to address food and agricultural sciences (as defined under section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3103)), as amended, in six priority areas. The six priority areas are: 1) plant health and production and plant products; 2) animal health and production and animal products; 3) food safety, nutrition, and health; 4) bioenergy, natural resources, and environment; 5) agriculture systems and technology; and 6) agriculture economics and rural communities. The alignment of AFRI program Requests for Applications (RFA) with the Farm Bill priorities are described in the following document.

Within the six priority areas, AFRI supports research, education, extension, and integrated research, education, and extension programs by awarding grants that address key problems of national, regional, or multi-state importance in sustaining all components of agriculture, including farm efficiency and profitability, ranching, bioenergy, forestry (both urban and agroforestry), aquaculture, rural communities and entrepreneurship, human nutrition, food safety, biotechnology, and conventional breeding. AFRI advances fundamental sciences as well as translational research and developing and coordinating opportunities to build on these discoveries. Additionally, through the support of education and extension efforts, AFRI enhances the delivery of science-based knowledge to people, allowing them to make informed practical decisions related to the food and agricultural sciences.

The AFRI program is structured to address critical societal challenges while continuing to support foundational agricultural science and build human capacity in the food and agricultural sciences. To accomplish this, the AFRI program is competed in eight program areas: six *Challenge Area* programs, one *Foundational* program, and one *Education Initiative* program.

The *Challenge Area* programs address the following areas: food security; climate variability and change; water for agriculture; sustainable bioenergy production; childhood obesity prevention; and food safety. Applications within the Challenge Area programs are solicited for larger awards for longer periods of time to enable greater collaboration among institutions and organizations, as well as enhance integration of basic and applied research with education and extension programs to address complex problems. The expectation is that the Challenge Area programs integrate the six Farm Bill AFRI Priority Areas and build on the discoveries in the Foundational Program to address societal challenges. These awards are made as continuation awards, an award instrument by which NIFA administers support for a specific number of objectives within a project for a specified period of time (typically one year) with a statement of intention to provide additional support at a future date based on accomplishments.

The *Foundational Program*, in contrast, focuses on building a foundation of knowledge critical for solving current and future societal challenges. The Foundational Program is organized by, and directly aligns with, the Farm Bill AFRI priority areas. The Foundational Program priorities are designed to include the scope of topics listed within each of the six Farm Bill Priority Areas.

The *Food, Agriculture, Natural Resources, and Human Sciences Education and Literacy Initiative* provides fellowships to outstanding pre- and postdoctoral students in the food, agricultural, natural resource, and human sciences. The initiative also advances the development of the agricultural-related science learning and engagement activities focused on the academic pipeline. The Education and Literacy Initiative directly aligns with the Farm Bill AFRI priority areas.

AFRI Request for Applications (RFA):

Challenge Area RFAs:

1. **Food Security Challenge Area RFA** | The total funding amount available in FY 2015 for the Food Security Challenge Area RFA is $36,800,000. Funding for new grants totaling $16,800,000 will support agricultural production research, education, and extension to develop more sustainable, productive and economically viable plant and animal production systems. Funding for existing grants totaling $20,000,000 will support ongoing research, education, and extension focused on adaptation to and mitigation of climate impacts on food production; translational genomics to improve disease resistance and improve fertility in animals; minimize crop diseases due to fungal pathogens; improve management of plant pathogens vectored by arthropods and nematodes; enhance the development and implementation of integrated pest management practices; reduce crop and livestock losses caused by pests and diseases; and support sustainable food systems to improve food security. This funding will continue to improve understanding of existing genomic information and classical breeding to develop new and improved animal breeds and crop cultivars for increased food production and quality. This area will primarily support projects that address the Farm Bill AFRI Priorities of: Plant Health and Production and Plant Products; and Animal Health and Production and Animal Products.

2. **Agricultural Science for Climate Variability and Change Challenge Area RFA** | The total funding amount available in FY 2015 for the Agricultural Science for Climate Variability and Change Challenge Area RFA is $9,000,000. Funding for existing grants totaling $4,000,000 will support ongoing research, education, and extension activities on adaptation and mitigation strategies for major regional cropping, livestock and forestry production systems. This includes: classical breeding, germplasm phenotyping, and genomics work to support the development of new plant varieties and animal breeds adapted to changing climate conditions; and the development of new cropping, forest, and livestock management systems that are responsive to climatic challenges including limits on irrigation water supplies, invasive species, forest fires, and weather extremes. Funding generally supports the adaptation of major agriculture and forestry production systems to climate variables and to mitigate greenhouse gases in the atmosphere. Climate variability and water resource issues will be addressed through the new Water for Agriculture challenge area initiated in FY 2014. This area will primarily support projects that address the Farm Bill AFRI Priorities of: Plant Health and Production and Plant Products; and Bioenergy, Natural Resources, and Environment.

3. **Water for Agriculture Challenge Area RFA** | NIFA initiated a new challenge area within AFRI in FY 2014 to address issues of water and water resources. The total funding amount available in FY 2015 for the Water for Agriculture Challenge Area RFA is $14,454,000. Funding of $6,000,000 will be for continuing support of grants awarded in response to the FY 2014 RFA, for which NIFA is presently soliciting applications for subsequent submission, peer-review, and consideration of funding. Funding for new grants totaling $8,454,000 will support work focused on attaining a better understanding of: the future of supply and demand for water across the agricultural value chain, including the effects of applying nontraditional water (e.g., recycled water) as agricultural irrigation; the increasing effects of climatic variability on water resources by improving resilience to drought; and societal aspects (e.g., population growth, value and water conservation) including national, regional and local policy that affect water availability. This area will primarily support projects that address the Farm Bill AFRI Priorities of: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; and Bioenergy, Natural Resources, and Environment.

4. **Sustainable Bioenergy Challenge Area RFA** | The total funding amount available in FY 2015 for the Sustainable Bioenergy Challenge Area is $33,474,000. Funding for existing grants totaling $33,474,000 will continue to support NIFA's Sustainable Bioenergy portfolio that focuses on the societal challenge to secure America's energy future with high relevance to the development of sustainable regional feedstock systems for the production of bioenergy and bio-based products. The program is designed to achieve the long-term outcome of reducing U.S. dependence on fossil fuels and meet the Energy Independence and Security Act. This area primarily supports projects that address the Farm Bill AFRI Priority of: Plant

Health and Production and Plant Products; Bioenergy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities.

5. **Childhood Obesity Prevention Challenge Area RFA** | The total funding amount available in FY 2015 for the Childhood Obesity Prevention Challenge Area RFA is $20,870,000. Funding for new grants totaling $5,886,593 will support research, education, and extension focusing on populations of greatest risk including populations eligible for USDA nutrition education and food assistance programs, Supplemental Nutrition Assistance Program and Child Nutrition Programs. Funding for existing grants totaling $14,983,407 will support ongoing research, education, and extension on access to healthy nutritious food, and innovative programs that focus on the food and physical activity environments in communities of greatest need to provide long-term and sustained reductions in the incidence of childhood obesity. This area will support projects that address the Farm Bill AFRI Priority of Food Safety, Nutrition, and Health.

6. F**ood Safety Challenge Area RFA** | The total funding amount available in FY 2015 for the Food Safety Challenge Area RFA is $23,754,000. Funding for new grants totaling $5,903,457 will support research, education, and extension to: advance investigator-driven integrated research to solve complex food safety challenges in fruits and vegetables and in animal food systems; amplify applied research that advances education, outreach, training and certifications for traditional and non-traditional food safety audiences that include both industry and consumers; expand and improve strategies for developing and implementing new processing technologies that enhance food quality and food safety; and integrate nutrition and food safety efforts to create a healthier food supply. Funding for existing grants totaling $17,850,543 will support ongoing research, education, and extension to improve the safety of the U.S. food supply by promoting safe handling of food and application of good agricultural practices. This area will primarily support projects that address the Farm Bill AFRI Priority of: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; and Food Safety, Nutrition, and Health.

Foundational Program RFA | The total funding amount available in FY 2015 for the Foundational Program RFA is $119,600,000. Funding for new grants totaling $119,600,000 will support research in each of the six Farm Bill AFRI Priority areas. In FY 2014, NIFA initiated the Critical Agricultural Research and Extension (CARE) program area and the Exploratory Research program area as part of the AFRI Foundational Program. Funding for the CARE program area will be used to support integrated projects that address critical and emerging needs in plant and animal health, production and products. The program will emphasize achieving results that can be applied by the producer as quickly as possible following project completion. The Exploratory Research program area will provide support for research projects that develop proof of concept for untested novel ideas, especially high risk-high reward research that will lead to a significant change in U.S. agriculture. This program area focuses on: new and emerging innovative ideas; application of new knowledge or approaches; tools that will yield a paradigm shift in the field; and rapid response to critical issues and similar unanticipated events. The Foundational Program is organized by, and directly aligns with, the Farm Bill AFRI priority areas. The Foundational Science priorities are designed to include the scope of subpriorities listed within each of the six Farm Bill Priority Areas.

Food, Agriculture, Natural Resources, and Human Sciences Education and Literacy Initiative RFA | The total funding amount available in FY 2015 for the Food, Agriculture, Natural Resources, and Human Sciences Education and Literacy Initiative RFA is $15,548,000. Funding for new grants totaling $15,548,000 will address agricultural workforce needs by supporting the following science learning and engagement activities: research and extension experiential learning for undergraduates such that upon graduation they may enter the agriculture workforce with exceptional skills; and preparing the next generation of scientists through fellowships, including doctoral and post-doctoral fellowships. The experiential learning initiative for undergraduates will provide opportunities for underrepresented students from minority serving institutions, community colleges and other universities to obtain hands-on experience at land-grant and non-land-grant universities and USDA laboratories and obtain training to join the agricultural workforce or pursue advanced-degree studies in food, agriculture, natural resources and the human sciences. The Education and Literacy Initiative priorities are designed to include the scope of topics listed within each of the Farm Bill Priority Areas.

Program Summary – FY 2015 Agriculture and Food Research Initiative (AFRI) Estimated Funding

The NIFA 2015 budget proposes to increase the AFRI program by $8,591,000, which includes:

- Continuation of a new food, agricultural, natural resources, and human sciences education and literacy initiative that was initiated in FY 2014;
- Continuation of a new Critical Agricultural Research and Extension (CARE) program that was initiated in FY 2014as part of the Foundational Program;
- Continuation of a new Exploratory Research program that was initiated in FY 2014 as part of the Foundational Program;
- Continuation of a new challenge area program Water for Agriculture, that was initiated in FY 2014 and is focused on addressing critical water and water resource problems;
- Continued support for high priority areas including production agriculture, adaptation of crop and livestock agriculture to climate variability, food security, sustainable bioenergy, nutrition and health, and food safety; and
- Fostering inter-agency collaborations to leverage greater investment in agriculturally-relevant areas of science, and attract new communities of scientists to address challenging agricultural issues.
- The AFRI program will issue seven Requests for Applications (RFA) to solicit new grant awards.

FY 2015 President's Budget			
Program	**Existing Grant Awards**	**New Grant Awards**	**Total**
Agriculture and Food Research Initiative	$ 96,307,950	$ 228,692,050	$ 325,000,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**21%**	**28%**
(i) Plant genome structure and function;	10%	10%
(ii) Molecular and cellular genetics and plant biotechnology;	17%	17%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	21%	21%
(iv) Plant-pest interactions and biocontrol systems;	45%	45%
(v) Crop plant response to environmental stresses;	5%	5%
(vi) Unproved nutrient qualities of plant products; and	0%	0%
(vii) New food and industrial uses of plant products.	2%	2%
	100%	100%
Animal Health and Production and Animal Products—Animal systems, including:	**11%**	**19%**
(i) Aquaculture;	2%	2%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;	44%	40%
(iii) Animal biotechnology;	0%	0%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	16%	11%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(v) Identification of genes responsible for improved production traits and resistance to disease;	12%	15%
(vi) Improved nutritional performance of animals;	4%	4%
(vii) Improved nutrient qualities of animal products and uses;	2%	2%
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	20%	16%
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and	n/a	5%
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.	n/a	5%
	100%	100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**30%**	**21%**
(i) Microbial contaminants and pesticides residue relating to human health;	21%	21%
(ii) Links between diet and health;	61%	61%
(iii) Bioavailability of nutrients;	2%	2%
(iv) Postharvest physiology and practices; and	5%	5%
(v) Improved processing technologies.	11%	11%
	100%	100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**24%**	**19%**
(i) Fundamental structures and functions of ecosystems;	7%	9%
(ii) Biological and physical bases of sustainable production systems;	48%	26%
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;	5%	19%
(iv) Global climate effects on agriculture	30%	26%
(v) Forestry; and	8%	13%
(vi) Biological diversity; and	2%	2%
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a	5%
	100%	100%
Agriculture Systems and Technology—Engineering, products, and processes, including:	**7%**	**7%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;	59%	55%
(ii) Robotics, energy efficiency, computing, and expert systems;	18%	18%
(iii) New hazard and risk assessment and mitigation measures; and	15%	15%
(iv) Water quality and management.	8%	12%
	100%	100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**6%**	**6%**

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(i) Strategies for entering into and being competitive in domestic and overseas markets;	19%	19%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	31%	31%
(iii) New decision tools for farm and market systems;	11%	11%
(iv) Choices and applications of technology;	5%	5%
(v) Technology assessment;	7%	7%
(vi) New approaches to rural development, including rural entrepreneurship; and	27%	22%
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a	5%
	100%	100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

FOOD SECURITY CHALLENGE AREA FY 2015 REQUEST FOR APPLICATIONS: Funding in FY 2015 will support new grants for agricultural production research, education and extension to develop more sustainable, productive and economically viable plant and animal production systems. Funding in FY 2015 also will support ongoing research, education, and extension focused on adaptation to and mitigation of climate impacts on food production; translational genomics to improve disease resistance and improve fertility in animals; minimize crop diseases due to fungal pathogens, improve management of plant pathogens vectored by arthropods and nematodes; enhance practices the development and implementation of integrated pest management practices; reduce crop and livestock losses caused by pests and diseases; and support sustainable food systems to improve food security. This funding will continue to improve understanding of existing genomic information and classical breeding to develop new and improved animal breeds and crop cultivars for increased food production and quality. NIFA will fund targeted work addressing the problems of U.S. agriculture, creating mutual benefits domestically and abroad, and allowing new opportunities for interdepartmental initiatives, as appropriate. The challenge area supports the Department's goal of helping America promote sustainable agricultural production and biotechnology exports as our nation works to create jobs and enhance local economies in the United States while increasing global food security.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Food Security Challenge Area	**$ 20,000,000**	**$ 16,800,000**	**$ 36,800,000**

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**33%**	**32%**
(i) Plant genome structure and function;	0%	5%
(ii) Molecular and cellular genetics and plant biotechnology;	0%	5%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	15%	30%
(iv) Plant-pest interactions and biocontrol systems;	85%	30%
(v) Crop plant response to environmental stresses;	0%	20%
(vi) Unproved nutrient qualities of plant products; and	0%	5%
(vii) New food and industrial uses of plant products.	0%	5%
	100%	100%
Animal Health and Production and Animal Products—Animal systems, including:	**33%**	**33%**
(i) Aquaculture;	0%	0%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;	0%	20%
(iii) Animal biotechnology;	0%	0%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	37%	20%
(v) Identification of genes responsible for improved production traits and resistance to disease;	35%	25%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(vi) Improved nutritional performance of animals;	14%	5%
(vii) Improved nutrient qualities of animal products and uses;	10%	5%
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	2%	5%
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and	n/a	15%
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.	n/a	5%
	100%	100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**16%**	**5%**
(i) Microbial contaminants and pesticides residue relating to human health;	0%	20%
(ii) Links between diet and health;	100%	60%
(iii) Bioavailability of nutrients;	0%	0%
(iv) Postharvest physiology and practices; and	0%	10%
(v) Improved processing technologies.	0%	10%
	100%	100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**2%**	**10%**
(i) Fundamental structures and functions of ecosystems;	**0%**	0%
(ii) Biological and physical bases of sustainable production systems;	100%	20%
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;	0%	10%
(iv) Global climate effects on agriculture	0%	20%
(v) Forestry; and	0%	0%
(vi) Biological diversity; and	0%	30%
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a	20%
	100%	100%
Agriculture Systems and Technology—Engineering, products, and processes, including:	**0%**	**5%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;		100%
(ii) Robotics, energy efficiency, computing, and expert systems;		0%
(iii) New hazard and risk assessment and mitigation measures; and		0%
(iv) Water quality and management.		0%
		100%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**16%**	**15%**
(i) Strategies for entering into and being competitive in domestic and overseas markets;	88%	40%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	4%	20%
(iii) New decision tools for farm and market systems;	0%	10%
(iv) Choices and applications of technology;	0%	0%
(v) Technology assessment;	8%	0%
(vi) New approaches to rural development, including rural entrepreneurship; and	0%	25%
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a	5%
	100%	100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

AGRICULTURAL SCIENCE FOR CLIMATE VARIABILITY AND CHANGE CHALLENGE AREA FY 2015 REQUEST FOR APPLICATIONS: Funding in FY 2015 will support the adaptation of major agriculture and forestry production systems to climate variables and to mitigate greenhouse gases in the atmosphere. Funding also will support ongoing research, education, and extension activities on adaptive management and mitigation potentials of agricultural and natural resource systems to address climate variables such as precipitation and temperature, and their impacts as a result of violent weather extremes, floods, or persistent droughts. This includes: classical breeding, germplasm phenotyping, and genomics work to support the development of new plant varieties and animal breeds adapted to changing climate conditions; and the development of new cropping, forest, and livestock management systems that are responsive to climatic challenges including limits on irrigation water supplies, invasive species, forest fires, and weather extremes. Dramatic climate effects during 2013 and 2012, including significant droughts and floods in major agricultural and forested regions, made it clear that USDA needs to continue to extend scientific knowledge on effects of climate variability and change on agriculture through advanced research, extension, and education. These efforts will assist farmers, ranchers, forest owners, and rural communities in identifying new management approaches and business practices that should be made so that agriculture production can be sustainable and profitable in the face of variable climates. Novel approaches to science-based education will enhance the development of new agricultural professionals addressing climate change. Research related to climate variability and water resource issues will be addressed through the new Water for Agriculture challenge area that focuses on water resources.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Agricultural Science for Climate Variability and Change Challenge Area	$ 4,000,000	$ 5,000,000	$ 9,000,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**29%**	**20%**
(i) Plant genome structure and function;	0%	0%
(ii) Molecular and cellular genetics and plant biotechnology;	16%	20%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	42%	50%
(iv) Plant-pest interactions and biocontrol systems;	23%	10%
(v) Crop plant response to environmental stresses;	19%	20%
(vi) Unproved nutrient qualities of plant products; and	0%	0%
(vii) New food and industrial uses of plant products.	0%	0%
	100%	100%
Animal Health and Production and Animal Products—Animal systems, including:	**4%**	**10%**
(i) Aquaculture;	0%	10%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;	0%	10%
(iii) Animal biotechnology;	0%	5%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	23%	10%
(v) Identification of genes responsible for improved production traits and resistance to disease;	23%	20%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(vi) Improved nutritional performance of animals;	7%	10%
(vii) Improved nutrient qualities of animal products and uses;	1%	5%
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	46%	30%
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and	n/a	0%
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.	n/a	0%
	100%	100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**0%**	**5%**
(i) Microbial contaminants and pesticides residue relating to human health;		50%
(ii) Links between diet and health;		0%
(iii) Bioavailability of nutrients;		0%
(iv) Postharvest physiology and practices; and		0%
(v) Improved processing technologies.		50%
		100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**63%**	**55%**
(i) Fundamental structures and functions of ecosystems;	6%	10%
(ii) Biological and physical bases of sustainable production systems;	10%	10%
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;	2%	10%
(iv) Global climate effects on agriculture	76%	50%
(v) Forestry; and	6%	10%
(vi) Biological diversity; and	0%	5%
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a	5%
	100%	100%
Agriculture Systems and Technology—Engineering, products, and processes, including:	**3%**	**5%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;	3%	6%
(ii) Robotics, energy efficiency, computing, and expert systems;	67%	35%
(iii) New hazard and risk assessment and mitigation measures; and	12%	24%
(iv) Water quality and management.	18%	35%
	100%	100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**1%**	**5%**

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(i) Strategies for entering into and being competitive in domestic and overseas markets;	0%	0%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	0%	40%
(iii) New decision tools for farm and market systems;	100%	40%
(iv) Choices and applications of technology;	0%	10%
(v) Technology assessment;	0%	0%
(vi) New approaches to rural development, including rural entrepreneurship; and	0%	0%
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a	10%
	100%	100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

WATER FOR AGRICULTURE CHALLENGE AREA FY 2015 REQUEST FOR APPLICATIONS: NIFA initiated a new challenge area within AFRI in FY 2014 to address issues of water and water resources in agriculture. Across the value chain, agriculture is the greatest consumptive user of water resources in the United States and around the world. Perhaps the greatest challenge facing agricultural producers will be adapting water management to an increasingly variable climate. The development of new science and technologies focused on widening the array of choices for conserving water and sustaining water quality at multiple scales is needed. This program is coordinated with, and leverages efforts in the Agricultural Science for Climate Variability and Change and Sustainable Bioenergy challenge areas within AFRI to address critical water resource problems in rural and agricultural watersheds across the United States. The program will focus on critical topics in water resources research, education and extension that will: lead to solutions for U.S. water challenges related to the production of food, fiber, fuel and other agricultural goods and services; be used to develop management practices, technologies, and tools for farmers, ranchers, forest owners and managers, public decision-makers, public and private managers and citizens to improve water resource quantity and quality; and link social, economic, and behavioral sciences with traditional biophysical sciences and engineering to address regional scale issues with shared hydrological processes, and meteorological and basin characteristics. Funding will support work that focuses on a better understanding of: the future of supply and demand for water across the agricultural value chain, including the effects of applying nontraditional water (e.g., recycled water) as agricultural irrigation; the increasing effects of climatic variability on water resources by improving drought responsiveness and preparedness; and societal aspects (e.g., population growth, value and water conservation) including national, regional and local policy that affect water availability.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Water for Agriculture Challenge Area	$6,000,000	$ 8,454,000	$ 14,454,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	n/a	**20%**
(i) Plant genome structure and function;		10%
(ii) Molecular and cellular genetics and plant biotechnology;		10%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;		10%
(iv) Plant-pest interactions and biocontrol systems;		15%
(v) Crop plant response to environmental stresses;		30%
(vi) Unproved nutrient qualities of plant products; and		15%
(vii) New food and industrial uses of plant products.		10%
		100%
Animal Health and Production and Animal Products—Animal systems, including:	n/a	**20%**
(i) Aquaculture;		30%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;		20%
(iii) Animal biotechnology;		10%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;		20%
(v) Identification of genes responsible for improved production traits and resistance to disease;		10%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(vi) Improved nutritional performance of animals; (vii) Improved nutrient qualities of animal products and uses; (viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture; (ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and (x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.		0% 0% 0% 0% 0% 100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including: (i) Microbial contaminants and pesticides residue relating to human health; (ii) Links between diet and health; (iii) Bioavailability of nutrients; (iv) Postharvest physiology and practices; and (v) Improved processing technologies.	n/a	**10%** 30% 0% 0% 40% 30% 100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including: (i) Fundamental structures and functions of ecosystems; (ii) Biological and physical bases of sustainable production systems; (iii) Minimizing soil and water losses and sustaining surface water and ground water quality; (iv) Global climate effects on agriculture (v) Forestry; and (vi) Biological diversity; and (vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a	**20%** 5% 5% 20% 10% 10% 0% 50% 100%
Agriculture Systems and Technology—Engineering, products, and processes, including: (i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources; (ii) Robotics, energy efficiency, computing, and expert systems; (iii) New hazard and risk assessment and mitigation measures; and (iv) Water quality and management.	n/a	**20%** 20% 10% 20% 50% 100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including: (i) Strategies for entering into and being competitive in domestic and overseas markets; (ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	n/a	**10%** 0% 20%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(iii) New decision tools for farm and market systems;		20%
(iv) Choices and applications of technology;		5%
(v) Technology assessment;		5%
(vi) New approaches to rural development, including rural entrepreneurship; and		0%
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.		50%
		100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

SUSTAINABLE BIOENERGY CHALLENGE AREA FY 2015 REQUEST FOR APPLICATIONS: Funding in FY 2015 will continue ongoing research, education, and extension needed for the development of alternative and renewable energy. Meeting the Congressional mandate to produce 36 billion gallons of biofuels by 2022 and the President's goal of 60 billion gallons by 2030 requires a substantial investment in the sustainable production of high-quality, cost-effective feedstocks for biofuel production. This priority supports the Department's goals of assisting rural communities to create wealth so they are self-sustaining, repopulating, and economically thriving while helping America promote sustainable agricultural production and biotechnology exports as America works to increase food security.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Sustainable Bioenergy Challenge Area	$ 33,474,000	$ -	$ 33,474,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**26%**	**26%**
(i) Plant genome structure and function;	26%	46%
(ii) Molecular and cellular genetics and plant biotechnology;	9%	1%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	24%	10%
(iv) Plant-pest interactions and biocontrol systems;	32%	0%
(v) Crop plant response to environmental stresses;	2%	2%
(vi) Unproved nutrient qualities of plant products; and	0%	0%
(vii) New food and industrial uses of plant products.	7%	41%
	100%	100%
Animal Health and Production and Animal Products—Animal systems, including:	**0%**	**0%**
(i) Aquaculture;		
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;		
(iii) Animal biotechnology;		
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;		
(v) Identification of genes responsible for improved production traits and resistance to disease;		
(vi) Improved nutritional performance of animals;		
(vii) Improved nutrient qualities of animal products and uses;		
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;		
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and		
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.		

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**0%**	**0%**
(i) Microbial contaminants and pesticides residue relating to human health;		
(ii) Links between diet and health;		
(iii) Bioavailability of nutrients;		
(iv) Postharvest physiology and practices; and		
(v) Improved processing technologies.		
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**49%**	**53%**
(i) Fundamental structures and functions of ecosystems;	5%	8%
(ii) Biological and physical bases of sustainable production systems;	80%	54%
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;	2%	11%
(iv) Global climate effects on agriculture	1%	2%
(v) Forestry; and	11%	23%
(vi) Biological diversity; and	1%	2%
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a	0%
	100%	100%
Agriculture Systems and Technology—Engineering, products, and processes, including:	**20%**	**6%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;	85%	66%
(ii) Robotics, energy efficiency, computing, and expert systems;	11%	0%
(iii) New hazard and risk assessment and mitigation measures; and	1%	0%
(iv) Water quality and management.	3%	34%
	100%	100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**5%**	**15%**
(i) Strategies for entering into and being competitive in domestic and overseas markets;	20%	6%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	21%	6%
(iii) New decision tools for farm and market systems;	0%	30%
(iv) Choices and applications of technology;	10%	15%
(v) Technology assessment;	21%	8%
(vi) New approaches to rural development, including rural entrepreneurship; and	28%	33%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a 100%	0% 100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

CHILDHOOD OBESITY PREVENTION CHALLENGE AREA FY 2015 REQUEST FOR APPLICATIONS: Funding in FY 2015 will support ongoing research, education, and extension directed toward access to healthy nutritious food and innovative programs that focus on the food and physical activity environments in communities of greatest need to provide long-term and sustained prevention of childhood obesity. Funded research will identify and generate new knowledge of the behavioral social, cultural, and/or environmental factors, including the food environment, that influence childhood obesity and will be used to develop and implement effective family, peer, community, and/or school-based interventions for preventing overweightness and obesity, and promote healthy behaviors in children and adolescents. Programs will continue to support research, education, and extension efforts to develop and increase consumption of healthy foods that are low in fats, sugars, and salt, and high in nutrients. Funding for new grants will support research, education and extension to focusing on populations of greatest risk including populations eligible for USDA nutrition education and food assistance programs, Supplemental Nutrition Assistance Program and Child Nutrition Programs.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Childhood Obesity Prevention Challenge Area	$ 14,983,407	$ 5,886,593	$ 20,870,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including: (i) Plant genome structure and function; (ii) Molecular and cellular genetics and plant biotechnology; (iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding; (iv) Plant-pest interactions and biocontrol systems; (v) Crop plant response to environmental stresses; (vi) Unproved nutrient qualities of plant products; and (vii) New food and industrial uses of plant products.	**0%**	**0%**
Animal Health and Production and Animal Products—Animal systems, including: (i) Aquaculture; (ii) Cellular and molecular basis of animal reproduction, growth, disease, and health; (iii) Animal biotechnology; (iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding; (v) Identification of genes responsible for improved production traits and resistance to disease; (vi) Improved nutritional performance of animals; (vii) Improved nutrient qualities of animal products and uses; (viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	**0%**	**0%**

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and (x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.		
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**100%**	**100%**
(i) Microbial contaminants and pesticides residue relating to human health;	0%	0%
(ii) Links between diet and health;	100%	100%
(iii) Bioavailability of nutrients;	0%	0%
(iv) Postharvest physiology and practices; and	0%	0%
(v) Improved processing technologies.	0%	0%
	100%	100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**0%**	**0%**
(i) Fundamental structures and functions of ecosystems; (ii) Biological and physical bases of sustainable production systems; (iii) Minimizing soil and water losses and sustaining surface water and ground water quality; (iv) Global climate effects on agriculture (v) Forestry; and (vi) Biological diversity; and (vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.		
Agriculture Systems and Technology—Engineering, products, and processes, including:	**0%**	**0%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources; (ii) Robotics, energy efficiency, computing, and expert systems; (iii) New hazard and risk assessment and mitigation measures; and (iv) Water quality and management.		
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**0%**	**0%**
(i) Strategies for entering into and being competitive in domestic and overseas markets; (ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations; (iii) New decision tools for farm and market systems; (iv) Choices and applications of technology;		

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(v) Technology assessment; (vi) New approaches to rural development, including rural entrepreneurship; and (vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.		

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

FOOD SAFETY CHALLENGE AREA FY 2015 REQUEST FOR APPLICATIONS: Funding in FY 2015 will support ongoing research, education, and extension to improve the safety of the U.S. food supply by promoting safe handling of food and application of good agricultural practices by promoting safe handling of food and application of good agricultural practices. Funding for new grants will support research, education, and extension to: advance investigator-driven integrated research to solve complex food safety challenges in fruits and vegetables and in animal food systems; amplify applied research that advances education, outreach, training and certifications for traditional and non-traditional food safety audiences that include both industry and consumers; expand and improve strategies for developing and implementing new processing technologies that enhance food quality and food safety; and integrate nutrition and food safety efforts to create a healthier food supply. This challenge area supports critical environmental and ecological research to improve our understanding of disease-causing microorganisms, antibiotic resistance, food allergies, and naturally occurring contaminants in meat, poultry, seafood, and fresh fruits and vegetables. This priority supports the Department's goal of ensuring that everyone in America has access to safe, nutritious, and balanced meals. Funding also will continue to focus on minimizing antibiotic resistance transmission through the food chain, as well as minimizing microbial food safety hazards of fresh and fresh-cut fruits and vegetables.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Food Safety Challenge Area	$ 17,850,543	$ 5,903,457	$ 23,754,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**1%**	**0%**
(i) Plant genome structure and function;	0%	
(ii) Molecular and cellular genetics and plant biotechnology;	0%	
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	0%	
(iv) Plant-pest interactions and biocontrol systems;	100%	
(v) Crop plant response to environmental stresses;	0%	
(vi) Unproved nutrient qualities of plant products; and	0%	
(vii) New food and industrial uses of plant products.	0%	
	100%	
Animal Health and Production and Animal Products—Animal systems, including:	**14%**	**15%**
(i) Aquaculture;	1%	1%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;	4%	4%
(iii) Animal biotechnology;	0%	0%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	6%	6%
(v) Identification of genes responsible for improved production traits and resistance to disease;	11%	11%
(vi) Improved nutritional performance of animals;	0%	0%
(vii) Improved nutrient qualities of animal products and uses;	0%	0%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	78%	78%
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and	n/a	0%
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.	n/a 100%	0% 100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**83%**	**83%**
(i) Microbial contaminants and pesticides residue relating to human health;	55%	49%
(ii) Links between diet and health;	0%	2%
(iii) Bioavailability of nutrients;	0%	1%
(iv) Postharvest physiology and practices; and	17%	18%
(v) Improved processing technologies.	28% 100%	30% 100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**0%**	**0%**
(i) Fundamental structures and functions of ecosystems;		
(ii) Biological and physical bases of sustainable production systems;		
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;		
(iv) Global climate effects on agriculture		
(v) Forestry; and		
(vi) Biological diversity; and		
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.		
Agriculture Systems and Technology—Engineering, products, and processes, including:	**1%**	**1%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;	0%	0%
(ii) Robotics, energy efficiency, computing, and expert systems;	100%	100%
(iii) New hazard and risk assessment and mitigation measures; and	0%	0%
(iv) Water quality and management.	0% 100%	0% 100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**1%**	**1%**
(i) Strategies for entering into and being competitive in domestic and overseas markets;	0%	0%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	0%	0%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(iii) New decision tools for farm and market systems;	0%	0%
(iv) Choices and applications of technology;	83%	0%
(v) Technology assessment;	17%	100%
(vi) New approaches to rural development, including rural entrepreneurship; and	0%	0%
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a	0%
	100%	100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

FOUNDATIONAL PROGRAM FY 2015 REQUEST FOR APPLICATIONS: Funding in FY 2015 will allow substantive research investments in each of the six Farm Bill Priority Areas established for AFRI,as listed below. This budget also proposes to continue support for two new competitive program areas that were initiated in FY 2014 as a part of the AFRI Foundational Program; the Critical Agricultural Research and Extension (CARE) program area and the Exploratory Research program area. Funding for the CARE program will support projects that address critical and emerging needs in plant and animal health, production and products. Grants will continue to be modest, with funding of up to $50,000 per year for a maximum of three years. The Exploratory Research program area will provide support for research projects that develop proof of concept for untested novel ideas, especially high risk-high reward research that will lead to a significant change in U.S. agriculture. Grants for Exploratory Research program will also be modest, with funding of up to $100,000 for a maximum of one year.

In response to overwhelming and continued stakeholder input, this budget proposes to increase the proportion of AFRI funds allocated to the Foundational Program to 40 percent in FY 2015, which is an increase of 5 percent over FY 2014. The intent is to increase the proportion in small increments over the next two years to enhance the Foundational Programs.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Foundational Program	$ -	$ 119,600000	$ 119,600,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**30%**	**27%**
(i) Plant genome structure and function;	7%	7%
(ii) Molecular and cellular genetics and plant biotechnology;	24%	24%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	16%	16%
(iv) Plant-pest interactions and biocontrol systems;	51%	51%
(v) Crop plant response to environmental stresses;	2%	2%
(vi) Unproved nutrient qualities of plant products; and	0%	0%
(vii) New food and industrial uses of plant products.	0%	0%
	100%	100%
Animal Health and Production and Animal Products—Animal systems, including:	**25%**	**25%**
(i) Aquaculture;	2%	2%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;	66%	56%
(iii) Animal biotechnology;	0%	0%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	12%	12%
(v) Identification of genes responsible for improved production traits and resistance to disease;	5%	5%
(vi) Improved nutritional performance of animals;	1%	1%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(vii) Improved nutrient qualities of animal products and uses;	0%	0%
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	14%	14%
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and	n/a	5%
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.	n/a 100%	5% 100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**14%**	**13%**
(i) Microbial contaminants and pesticides residue relating to human health;	43%	43%
(ii) Links between diet and health;	10%	10%
(iii) Bioavailability of nutrients;	16%	16%
(iv) Postharvest physiology and practices; and	3%	3%
(v) Improved processing technologies.	28% 100%	28% 100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**11%**	**12%**
(i) Fundamental structures and functions of ecosystems;	12%	12%
(ii) Biological and physical bases of sustainable production systems;	34%	31%
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;	32%	30%
(iv) Global climate effects on agriculture	0%	0%
(v) Forestry; and	9%	9%
(vi) Biological diversity; and	13%	13%
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a 100%	5% 100%
Agriculture Systems and Technology—Engineering, products, and processes, including:	**5%**	**9%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;	9%	9%
(ii) Robotics, energy efficiency, computing, and expert systems;	29%	29%
(iii) New hazard and risk assessment and mitigation measures; and	53%	53%
(iv) Water quality and management.	9% 100%	9% 100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**15%**	**14%**
(i) Strategies for entering into and being competitive in domestic and overseas markets;	4%	4%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy,	40%	35%

Farm Bill AFRI Priority Area		Historical Investment	Proposed 2015 Budget
	livestock, crop and other commodity operations;		
(iii)	New decision tools for farm and market systems;	16%	16%
(iv)	Choices and applications of technology;	2%	2%
(v)	Technology assessment;	3%	3%
(vi)	New approaches to rural development, including rural entrepreneurship; and	35%	35%
(vii)	The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a	5%
		100%	100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

FOOD, AGRICULTURAL, NATURAL RESOURCES, AND HUMAN SCIENCES EDUCATION AND LITERACY INITIATIVE FY 2015 REQUEST FOR APPLICATIONS: The FY 2015 budget proposes a new initiative from the perspective of enhancing science, agriculture, food, and environmental education and literacy in schools and colleges across America that offer education in the food, agricultural, natural resources and human sciences disciplines. This initiative supports NIFA's strategic education and literacy framework and combines funds traditionally used to support the NIFA Fellows program to create a new initiative called "food, agricultural, natural resources, and human sciences education and literacy initiative". The overall goal of this initiative is to ensure that the food and agriculture educational pipeline is enhanced by developing a vibrant and diverse workforce that reflects the nation's demographics and contributes to the national food and agricultural system through programs that focus on science-based learning, engagement, workforce development, and professional careers in agriculture. NIFA's education framework will enhance the ability of the agency to focus on a more coordinated and synergistic approach in developing, maintaining, and enhancing the agriculture-related career pipeline. This is in alignment with the recommendations made in the December 2012 PCAST "Report to the President on Agricultural Preparedness and the Agriculture Research Enterprise."

Funding will advance the development of the agricultural-related science learning and engagement activities focused on agricultural workforce needs by supporting the following science learning and engagement activities: research and extension experiential learning for undergraduates such that upon graduation they may enter the workforce with exceptional skills; and preparing the next generation of scientists through fellowships, including doctoral and post-doctoral fellowships. An experiential learning initiative for undergraduates will provide opportunities for students from minority serving institutions, community colleges and other universities to obtain hands-on experience at land-grant and non-land-grant universities and USDA laboratories and obtain training to join the agricultural workforce or pursue graduate studies in food, agriculture, natural resources and the human sciences. The projects will promote training and scholarship support for undergraduate and graduate students and postdoctoral scholars in the disciplines considered to be in shortage in the food, agricultural, natural resources and human sciences fields, and it will complement research areas traditionally supported by the NIFA Fellows program. This initiative will strongly encourage the participation of individuals from groups that are underrepresented on the basis of race and ethnicity, gender, disability, geographical location, and socio-economic backgrounds.

Funding also will strengthen and enhance AFRI's support of predoctoral and postdoctoral education and research training in priority program areas including sustainable crop and livestock production, agricultural socio-economics and agribusiness, forestry and natural resources, human sciences, sustainable bioenergy production, climate variability and change, food safety, food security, and the prevention of childhood obesity. Awards will be made to individuals based upon their qualifications and interest in pursuing research careers in areas consistent with NIFA priorities and in emerging frontiers in agriculture that require multidisciplinary and interdisciplinary approaches.

FY 2015 President's Budget			
Request for Applications (RFA)	**Existing Grant Awards**	**New Grant Awards**	**Total**
Food, Agricultural, Natural Resources, and Human Sciences Education and Literacy Initiative (Previously the NIFA Fellowships Grant Program)	$ -	$ 15,548,000	$ 15,548,000

Farm Bill AFRI Priority Area	**Historical Investment**	**Proposed 2015 Budget**
Plant Health and Production and Plant Products—Plant systems, including:	**56%**	**25%**
(i) Plant genome structure and function;	8%	20%
(ii) Molecular and cellular genetics and plant biotechnology;	50%	20%
(iii) Conventional breeding, including cultivar and breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breading for improved local adaptation to biotic stress and abiotic stress, and	0%	10%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
participatory breeding;		
(iv) Plant-pest interactions and biocontrol systems;	30%	20%
(v) Crop plant response to environmental stresses;	9%	20%
(vi) Unproved nutrient qualities of plant products; and	1%	5%
(vii) New food and industrial uses of plant products.	2%	5%
	100%	100%
Animal Health and Production and Animal Products—Animal systems, including:	**18%**	**20%**
(i) Aquaculture;	16%	5%
(ii) Cellular and molecular basis of animal reproduction, growth, disease, and health;	63%	20%
(iii) Animal biotechnology;	0%	20%
(iv) Conventional breeding, including breed development, selection theory, applied quantitative genetics, breeding for improved food quality, breeding for improved local adaptation to biotic stress and abiotic stress, and participatory breeding;	4%	0%
(v) Identification of genes responsible for improved production traits and resistance to disease;	5%	20%
(vi) Improved nutritional performance of animals;	0%	20%
(vii) Improved nutrient qualities of animal products and uses;	0%	3%
(viii) The development of new and improved animal husbandry and production systems that take into account production efficiency, animal well-being, and animal systems applicable to aquaculture;	12%	2%
(ix) The research and development of surveillance methods, vaccines, vaccination delivery systems, or diagnostic tests for pests and diseases; and	n/a	5%
(x) The identification of animal drug needs and the generation and dissemination of data for safe and effective therapeutic applications of animal drugs for minor species and minor uses of such drugs in major species.	n/a	5%
	100%	100%
Food Safety, Nutrition, and Health—Nutrition, food safety and quality, and health, including:	**10%**	**20%**
(i) Microbial contaminants and pesticides residue relating to human health;	51%	30%
(ii) Links between diet and health;	46%	30%
(iii) Bioavailability of nutrients;	3%	5%
(iv) Postharvest physiology and practices; and	0%	5%
(v) Improved processing technologies.	0%	30%
	100%	100%
Bioenergy, Natural Resources, and Environment—Natural resources and the environment, including:	**11%**	**20%**
(i) Fundamental structures and functions of ecosystems;	0%	20%
(ii) Biological and physical bases of sustainable production systems;	20%	20%
(iii) Minimizing soil and water losses and sustaining surface water and ground water quality;	1%	20%
(iv) Global climate effects on agriculture	45%	10%
(v) Forestry; and	11%	20%

Farm Bill AFRI Priority Area	Historical Investment	Proposed 2015 Budget
(vi) Biological diversity; and	23%	5%
(vii) The effectiveness of conservation practices and technologies designed to address nutrient losses and improve water quality.	n/a	5%
	100%	100%
Agriculture Systems and Technology—Engineering, products, and processes, including:	**1%**	**8%**
(i) New uses and new products from traditional and nontraditional crops, animals, by products, and natural resources;	0%	70%
(ii) Robotics, energy efficiency, computing, and expert systems;	0%	5%
(iii) New hazard and risk assessment and mitigation measures; and	66%	5%
(iv) Water quality and management.	34%	20%
	100%	100%
Agriculture Economics and Rural Communities—Markets, trade, economics, and policy, including:	**4%**	**7%**
(i) Strategies for entering into and being competitive in domestic and overseas markets;	10%	3%
(ii) Farm efficiency and profitability, including the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations;	32%	60%
(iii) New decision tools for farm and market systems;	29%	10%
(iv) Choices and applications of technology;	28%	20%
(v) Technology assessment;	0%	3%
(vi) New approaches to rural development, including rural entrepreneurship; and	1%	2%
(vii) The economic costs, benefits, and viability of producers adopting conservation practices and technologies designed to improve water quality.	n/a	2%
	100%	100%

* Funding amounts by priority area are calculations using an historical rate of investment. The historical investment is based on a two-year average of awards made for each sub-priority during FYs 2010 through 2011.

** Final investments for 2015 will depend upon enacted appropriation levels, applications received and funded, and categorization of funded projects.

Other Competitive Programs

Non-AFRI competitive programs included in the Congressional Directive and/or Farm bill language are listed below. FY 2014 discretionary funding is based on the Agriculture Appropriations for FY 2014. Programs funded by mandatory funding are included based on the Agricultural Act of 2014 (2014 Farm Bill). FY 2015 Budget estimates are the estimated resources based on the President's budget request and FY 2015 funding amounts provided in the 2014 Farm Bill, and may differ from final FY 2015 funding amounts appropriated by Congress.

Program	Authority	Scope of RFA and Budget Justification	2014 Estimate ($000s)	2015 Budget ($000s)	RFA Dates
Sustainable Agriculture Research and Education Program	7 U.S.C. 5811, 7 U.S.C. 5812, 7 U.S.C. 5831, & 7 U.S.C. 5832 in accordance with the general authorities in 7 U.S.C. 343(d)	The FY 2014 RFA will focus on increasing the knowledge of and helping farmers and ranchers to adopt practices that are productive, profitable, environmentally sound, and good to communities. Grants awarded by the four regional administrative councils will support projects that address crop and livestock production and marketing, stewardship of soil and other natural resources, economics and quality of life. The program will support development of technical guides and handbooks and education and training for Cooperative Extension System agents, and other agricultural professionals involved in the education and transfer of technical information concerning sustainable agriculture. Development of the FY 2015 RFA focus is ongoing.	$22,667	$22,667	2014: April 1, 2014 2015: Spring 2015
Water Quality	7 U.S.C. 7626	The FY 2014 RFA will contribute to the improvement of the quality and conservation of our Nation's water resources through research, education, and extension activities. Projects funded through this program will work to solve water resource problems by advancing and disseminating the knowledge base available to agricultural, rural, and urbanizing communities leading to science-based decision making and management practices that improve the quality and quantity of the Nation's water resources in agricultural, rural, and urbanizing watersheds. The program will support tools, technologies and knowledge development in response to variable climate impacts that can build resilience and adaptability into watershed management.	4,500	0	2014: Late Spring 2014
Methyl Bromide	7 U.S.C. 7626	The FY 2014 RFA will focus on developing pest management technologies and interventions to replace Methyl Bromide fumigation for industries affected by the international regulatory phase out. The program calls for adaptive, short term pest management solutions and economic analysis of transition costs. Additionally, this RFA requests proposals for economic impact analysis of commodities that have already lost the use of Methyl Bromide.	1,996	0	2014: Spring 2014

Program	Authority	Scope of RFA and Budget Justification	2014 Estimate ($000s)	2015 Budget ($000s)	RFA Dates
Organic Transition Program	7 U.S.C. 7626	The FY 2014 RFA will focus on the development and implementation of research, extension and higher education programs to improve the competitiveness of organic livestock and crop producers, as well as those who are adopting organic practices. The program is focused on the development and implementation of biologically-based pest management practices that mitigate the ecological, agronomic and economic risks associated with a transition from conventional to organic agricultural production systems. Development of the FY 2015 RFA focus is ongoing.	4,000	4,000	2014: January 2014 2015: Winter 2015
Crop Protection/Pest Management	7 U.S.C. 7626	The FY 2014 RFA will focus on integrated pest management (IPM) projects that respond to pest management challenges with coordinated regional and national research and extension programs that promote further development and use of IPM approaches. This new program consolidates the Expert IPM Decision Support System, IPM and Biological Control, Pest Management Alternatives, Smith-Lever 3(d) Pest Management, and Regional Pest Management Centers programs into a single program that will invest in research, education and extension activities needed to ensure global food security. The program will develop and help end-users discover and implement effective, affordable, and environmentally-sound IPM strategies to reduce economic, environmental, and societal losses caused by diseases, insects, weeds, and other pests that affect crops and livestock and pests that affect human well-being and community vitality. The FY 2015 RFA will focus on integrated pest management (IPM) projects that respond to pest management challenges with coordinated regional and national research and extension programs that promote further development and use of IPM approaches. The program will develop and help end-users discover and implement effective, affordable, and environmentally-sound IPM strategies to reduce economic, environmental, and societal losses caused by diseases, insects, weeds, and other pests that affect crops and livestock and pests that affect human well-being and community vitality.	17,143	17,143	2014: Spring 2014 2015: Winter 2015
Specialty Crop Research Initiative	7 U.S.C. 7632	The FY 2014 RFA will give priority to projects that are multistate, multi-institutional, or trans-disciplinary; and include explicit mechanisms to communicate results to producers and the public. Projects must address at least one of the following five focus areas: A) Research in plant breeding, genetics, genomics and other methods to improve crop characteristics; B) Efforts to identify and address threats from pests and diseases, including threats to pollinators; C) Efforts to improve production efficiency, handling	80,000	80,000	2014: March 2014

Program	Authority	Scope of RFA and Budget Justification	2014 Estimate ($000s)	2015 Budget ($000s)	RFA Dates
		and processing, productivity, and profitability over the long term; D) New innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and E) Methods to prevent, detect, monitor control, and respond to potential food safety hazards in the production and processing of specialty crops. NIFA is obligated to reserve $25 million to address citrus health issues and in 2014, the primary focus will be on Huonglongbing (HLB, citrus greening) and the insect that vectors the pathogen causing this disease. No changes are anticipated for the FY 2015 RFA.			2015: Fall 2014
Beginning Farmer and Rancher Development Program	7 U.S.C. 3319f(c)(1)	The FY 2014 RFA will focus on education and training for beginning farmers and ranchers (BFRs) on the 14 priority topics specified in the Agricultural Act of 2014. It will solicit proposals for the three types of proposals specified in the Act: standard training grants, educational enhancement grants, and curriculum and training clearinghouse. At least five percent of funds will focus on training for veteran BFRs, and at least five percent of funds will focus on training for limited-resource BFRs, socially disadvantaged BFRs, and farmworkers desiring to become BFRs (both set-asides as specified in the Agricultural Act of 2014). The FY 2015 RFA will continue the focus on education and training through standard grants and educational enhancement grants, with the same two set-asides, and the same range of topics. Topical priorities may be adjusted based on stakeholder input received in FY 2014 and to complement and avoid duplicating the work funded in FY 2014.	20,000	20,000	2014: Spring 2014 2015: January 2015
Organic Agriculture Research and Extension Initiative	7 U.S.C. 5925b(a)	The FY 2014 RFA will focus on solving critical organic agricultural issues, priorities and enhancing the ability of producers and processors who have already adopted organic standards to grow and market high quality organic agricultural products. Emphasis will be given to research, education and outreach projects that will assist farmers and ranchers with whole farm planning by delivering practical research-based information relating to management of diseases, insect pests and weeds in specific regions, such as the southern region, where organic acreage is demonstrably increasing and yet the region remains deficient in terms of numbers of certified and exempt organic farms, compared to nationwide averages. The FY 2015 RFA will focus on the eight legislatively-defined goals: (1)	20,000	20,000	2014: March 2014 2015:

Program	Authority	Scope of RFA and Budget Justification	2014 Estimate ($000s)	2015 Budget ($000s)	RFA Dates
		Facilitating the development of organic agriculture production, breeding, and processing methods, (2) Evaluating the potential economic benefits of organic agricultural production and methods to producers, processors and rural communities, (3) Exploring international trade opportunities for organically grown and processed agricultural commodities, (4) Determining desirable traits for organic commodities, (5) Identifying marketing and policy constraints on the expansion of organic agriculture, (6) Conducting advanced on-farm research and development that emphasizes observation of, experimentation with, and innovation for working organic farms, including research relating to production and marketing, food safety, socioeconomic conditions, and farm business management, (7) Examining optimal conservation and environmental outcomes relating to organically produced agricultural products, (8) Developing new and improved seed varieties that are particularly suited for organic agriculture.			Fall 2014