2019 President's Budget
National Institute of Food and Agriculture

Contents

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 NIFA. NIFA continues to invest in and advance agricultural research, education, and extension to solve societal challenges.

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 Hatch Act of 1887, as amended (7 U.S.C. 361a-361i); McIntire-Stennis Cooperative Forestry Act of 1962, as amended (16 U.S.C. 582a et seq.) ; Competitive, Special, and Facilities Research Grant Act, as amended (7 U.S.C. 3157) (Note: 7 U.S.C. 450i was transferred to & 7 U.S.C. 3157) (the 1965 Act); National Agricultural Research, Extension, and Teaching Policy Act (NARETPA) of 1977, as amended (7 U.S.C. 3101 et seq.) ; 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); Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note) (the 1994 Act); Agricultural Research, Extension, and Education Reform Act of 1998 (Pub. L. 105-185), as amended (AREERA); Food, Agriculture, Conservation, and Trade Act of 1990 (Pub. L. 101-624) (FACT Act), Farm Security and Rural Investment Act of 2002 (Pub. L. 107–171) (FSRIA), Food, Conservation, and Energy Act of 2008 (Pub. L. 110-246) (FCEA), and 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; 1890 Land-Grant Institutions and Tuskegee University, West Virginia State University, and Central State University (7 U.S.C. 321 et seq., as amended by Pub. L. 113-79); 1994 Land-Grant Institutions (7 U.S.C. 301 note, as amended by Pub. L. 113-79); 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 (Pub. L. 113-79).

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; FAIR Act; and Section 7101 of Pub. L. 113-79.

The McIntire-Stennis 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.

Section 7101 of Agricultural Act of 2014 (Pub. L. 113-79) allows eligible State institutions to declare their intention not to be considered a cooperating forestry school, and to alternatively be considered as a Non-Land-Grant College of Agriculture. Such a declaration would remain in effect until September 30, 2018.

3. Payments to 1890 Colleges, including Tuskegee University, West Virginia State University, and Central State University – Section 1445 of NARETPA; Food and Agriculture Act of October 28, 1978, (Pub. L. 95-547); and subject to provisions of Agriculture and Food Act of 1981 (Pub. L. 97-98); Food Security Act of 1985 (Pub. L. 99-198); FACT Act; FAIR Act; AREERA; FSRIA; FCEA; and Section 7129 of Pub. L. 113-79 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 Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2002 (Pub. L. 107-76) makes West Virginia State University eligible to receive funds under this program. Section 7129 of Pub. L. 113-79 makes Central State University eligible to receive funds under this program beginning in fiscal year 2016. 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 of NARETPA (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, as amended by Pub. L 113-79), 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. In accordance with amendments made by Section 7111 of Pub. L. 113-79, allocated funds may only be used to meet the expenses of conducting animal health and disease research, publishing and disseminating the results of such research, and contributing to the retirement of employees subject to the Act of March 4, 1940 (7 U.S.C. 331); for administrative planning and direction; and to purchase equipment and supplies necessary for conducting research described above. 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. In the event the annual appropriation for this program exceed $5 million in a fiscal year, Section 7111 of Pub. L. 113-79 authorizes a new competitive grant program under this authority which would be implemented to address the critical needs of animal agriculture by funding eligible entities to conduct research to promote food security, and on the relationship between animal and human health, and to develop and disseminate to the public tools and information based on the research conducted above and sound science.

5. Research Grants - Section 2(c) of the 1965 Act (7 U.S.C. 3157), 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. 3157), 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. 3157), 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. 3157), as amended, grants are awarded that develop and test improved potato varieties for commercial production. The program specifically seeks to improve aspects of potato varieties and production to include identifying traits for resistance to pests and diseases, stress, regional adaptation, increased yield, quality, and market appeal. Where appropriate, the program supports the use of technologies to rapidly identify traits for commercially suitable varieties. Further, a program aspect is to develop technologies to rapidly identify potential pest and disease threats, allowing producers a better opportunity to reduce losses. Funds are awarded on a competitive basis under the program.

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. Funds are awarded on a competitive basis under the program.

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 and help farmers and ranchers adopt practices that are productive, profitable, environmentally sound, and good for people and communities. Grants are awarded by four regional administrative councils for projects that address crop and livestock production and marketing, stewardship of 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 disseminate information about sustainable agricultural practices. The program supports the development of technical guides and handbooks plus education and training for Cooperative Extension System agents, and other university, private sector and agency agricultural professionals engaged in the education and transfer of technical information concerning sustainable agriculture. Funds are also used for statewide planning of sustainable agriculture programs.

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, pest pressures, 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. 3157), 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. 3157) as amended by section 7406 of Pub. L. 110-246 and section 7404 of Pub. L. 113-79 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). In accordance with section 7404 of Pub. L. 113-79, entities established under a commodity promotion law or a State commodity board (or other equivalent State entity) may directly submit to the Secretary for consideration proposals for requests for applications that specifically address particular issues related to the priority areas. Accepted topics are incorporated, as appropriate, into AFRI requests for applications. 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 not

less than 3.2 percent of appropriations in fiscal year 2017 and each fiscal year thereafter for extramural research and development for awards to eligible small firms.

Additionally, Section 5141 of the National Defense Authorization Act for Fiscal Year 2012 (Pub. L. 112-81) as amended allows not more than 3 percent of program funds for fiscal years 2013 through 2017 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, as amended by Pub. L. 113-79) authorizes 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. Pursuant to Section 7402 of Pub. L. 113-79, 1994 Institutions may work with the Agricultural Research Service or at least 1 of the other land-grant colleges or universities, a Non-Land-Grant College of Agriculture, or cooperating forestry schools.

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), as amended and reauthorized by section 7516 of Pub L. 113-79 established this program for grants to sun grant centers and subcenters for competitive awards 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 (NLGCA) – Section 7138 of FCEA (7 U.S.C. 3319i) established this competitively awarded grants program to assist the NLGCA 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. Section 7101 of Pub. L. 113-79 defined eligibility for this program and a certification process was implemented accordingly.

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. Food Security Act of 1985 (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) of NARETPA 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) of NARETPA 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) of NARETPA 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) of NARETPA stimulates the development of high quality teaching, research, and extension programs at the 1890 Land-Grant Institutions and Tuskegee University, West Virginia State University, and Central State University (per Section 7129 of Pub. L. 113-79) 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 and strategic partnerships; 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. Section 7402 of the Agricultural Act of 2014 amended section 532 of the 1994 Act by adding College of the Muscogee Nation and Keweenaw Bay Ojibwa Community College, effective October 2014. 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) and (7 U.S.C. 3222b-2), as amended, is designed to enhance teaching and extension programs in food and agricultural sciences that are located in the insular areas. Funds may be used to 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 also may be used to acquire, alter, or repair facilities or relevant equipment necessary for conducting agricultural research. 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.

The Veterinary Services Grant Program, authorized by section 1415B of NARETPA (7 U.S.C. 3151b) as amended, provides for a competitive grants program to develop, implement, and sustain veterinary services. Program activities will substantially relieve veterinarian shortage situations, facilitate private veterinary practices engaged in public health activities, or support the practices of veterinarians who are providing or have completed providing services under agreement under the Veterinary Medicine Loan Repayment 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 3,143 counties or county equivalents in the United States.

Thousands of Extension employees and millions of 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., 14 percent for FY 2014 and thereafter) distributed to the 1890 Land-Grant Institutions according to the pro rata 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 pro rata 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 and 7 U.S.C. 2662) – 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 to provide assistance and educational programs in agriculture, community development, youth development, and other societal issues facing Native Americans on reservations. The purpose of this program is to support Extension education on Federally Recognized Indian Reservations and Tribal jurisdictions of Federally Recognized Tribes. This program seeks to

continue the Land Grants' mission of inclusion--providing education and research-based knowledge to those who might not otherwise receive it.

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, West Virginia State University, and Central 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. Section 7129 of Pub. L. 113-79 designates Central State University as an eligible 1890 Land-Grant Institution. 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, West Virginia State University, and Central State University (per Section 7129 of Pub. L. 113-79). 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. 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, including the University of the District of Columbia (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 Central State University. 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. Section 7402 of the Agricultural Act of 2014 amended section 532 of the 1994 Act by adding College of the Muscogee Nation and Keweenaw Bay Ojibwa Community College, effective October 2014.

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. Food Safety Outreach Program - Section 405 of AREERA is the authority for the program. The Food Safety Outreach Program awards competitive grants to eligible recipients for projects that develop and implement Food Safety Modernization Act-related food safety training, education, extension, outreach, and technical assistance to owners and operations of small and medium-sized farms, beginning farmers, socially disadvantaged farmers, small processors or small fresh fruit and vegetable merchant wholesalers.

12. 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 million 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 school-based agricultural educational organization; 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 per year and the maximum project period is three years. In accordance with Section 7409 of Pub. L. 113-79, not less than 5 percent of the funds used to carry out the program for a fiscal year shall be used to support programs and services that address the needs of limited resource beginning farmers or ranchers; socially disadvantaged farmers or ranchers who are beginning farmers or ranchers; and farmworkers desiring to become farmers or ranchers. Not less than 5 percent of the funds used to carry out the program for a fiscal year shall be used to support programs and services that address the needs of veteran farmers and ranchers.

13. Food Insecurity Nutrition Incentive - Section 4208 of the Agricultural Act of 2014, which amends section 4405 of the Food, Conservation, and Energy Act of 2008 (7 U.S.C. 7517) authorizes the Food Insecurity Nutrition Incentive Program to support projects to increase the purchase of fruits and vegetables among low-income consumers participating in the Supplemental Nutrition Assistance Program (SNAP) by providing incentives at the point of purchase. Mandatory funding is made available in the enacted amount of $25 million for FY 2018.

14. 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 million 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 AREERA (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. 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.

2. 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.

3. Crop Protection/Pest Management - This program will support Integrated Pest Management (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 Competitive, Special, and Facilities Research Grant Act of 1965 (7 U.S.C. 3157 (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 mandatory funding in the enacted amount of $20 million for FY 2014 through FY 2018 for the Organic Agricultural Research and Extension Initiative. The purpose of this mandatory 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 - Reauthorized by Section 7306 of the Agricultural Act of 2014 which amends Section 412 of AREERA of 1998 (7 U.S.C. 7632). Section 412 of the AREERA of 1998 established 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 million is to be made available for FY 2014 and each year thereafter to carry out SCRI.

Of the monies available to the SCRI, $25 million is reserved and available until expended, for each of the FYs 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).

Section 7306 of the Agricultural Act of 2014 added a requirement that, in addition to the scientific peer review NIFA regularly conducts, a panel of specialty crop industry representatives' review and rank SCRI applications for merit, relevance, and impact. In addition, Section 7306 requires increased consultation between NIFA and the Specialty Crops Committee of the National Agricultural Research, Extension, Education and Economics Advisory Board.

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 and development activities and 50 percent for demonstration and commercial. Waiver authority for the research and development 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.

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.

Biodiesel Fuel Education Program

The goals of this program as established in Section 9006 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 million is to be made available for each of FY 2014 through FY 2018 to carry out this program.

Community Food Projects

Section 25 of the Food Stamp Act of 1977 (7 U.S.C. 2034), as amended by the Agricultural Act of 2014 and the Food and Nutrition Act of 2008, 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 $9 million for 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, 2017, there were 339 permanent full-time employees and 53 other employees.

Agency Audit Reports

OMB Circular A-133 Audits

A-133 audit reviews for the grantees listed below were completed during fiscal year 2017.

Audit Report No.	Institution	Year Ending	Closed Date
38426	Easter Seals Tristate LLC	2015	10/04/16
119146	Public Health Institute	2015	10/04/16
180143	University Of Puerto Rico	2015	10/04/16
181427	Brigham Young University	2015	10/04/16
231194	Conservation Legacy	2015	10/04/16
123573	Cal Poly Corporation	2016	10/04/16
63205	Hmong American Partnership	2015	10/04/16
114631	Community Action Of Skagit County	2015	10/06/16
213962	Little Priest Tribal College	2015	10/06/16
227268	YMCA Of Greater Grand Rapids	2015	10/04/16

Audit Report No.	Institution	Year Ending	Closed Date
230937	Food Bank Coalition Of San Luis Obispo County	2015	10/06/16
236728	Latino Economic Development Center	2015	10/04/16
245219	Sitka Sound Science Center	2015	10/04/16
38406	Mid-Ohio Foodbank	2016	10/04/16
196078	Alabama State University	2012	10/06/16
8827	Cold Spring Harbor Laboratory	2015	10/04/16
15516	Public Health Solutions	2015	10/04/16
48349	National Opinion Research Center	2015	10/04/16
98107	Winrock International Institute For Agricultural Development	2015	10/04/16
199681	Kashia Band Of Pomo Indians Of The Stewarts Point Rancheria	2015	10/04/16
205618	Stroud Water Research Center, Inc.	2015	10/04/16
234403	Translational Genomics Research Institute	2015	10/04/16
245070	Tyonek Tribal Conservation District	2015	10/04/16
245095	Cornell Cooperative Extension Association Of Onondaga County	2015	10/04/16
127	University Of New England	2016	10/06/16
134738	Boulder County, Colorado	2015	10/06/16
158417	County Of Wayne	2015	10/04/16
177875	Brown County, Wisconsin	2015	10/06/16
184062	California Foundation For Independent Living Centers	2015	10/04/16
187889	Ulster County, New York	2015	10/04/16
196118	Intertribal Agricultural Council	2015	10/04/16
211418	Occk, Inc.	2015	10/06/16
233786	Cornell Cooperative Extension Association Of Oneida County	2015	10/04/16
245163	Cornell Cooperative Extension Of Wayne County	2015	10/04/16
56455	Kettering University	2016	11/01/16
101742	Baylor College Of Medicine	2016	11/01/16
122394	Humboldt State University Sponsored Programs Foundation	2016	11/01/16
124104	The University Corporation	2016	11/01/16
142099	Joliet Junior College Community College District No. 525	2016	11/01/16
186541	University Of Idaho	2016	11/01/16
220192	College Of Southern Idaho	2016	11/01/16
230937	Food Bank Coalition Of San Luis Obispo County	2015	11/03/16
236728	Latino Economic Development Center	2015	11/01/16
88388	St. Thomas University Inc.	2016	11/01/16
101140	Texas Lutheran University	2016	11/01/16
101517	Houston Baptist University	2016	11/01/16
107889	University Corporation At Monterey Bay	2016	11/01/16
108418	Jannus, Inc	2016	11/01/16
122370	California State University Fresno Foundation	2016	11/01/16
124737	California State University, Bakersfield Auxiliary	2016	11/01/16

Audit Report No.	Institution	Year Ending	Closed Date
204427	Ajo Community Health Center Dba Desert Senita Community Health Center	2016	11/01/16
117856	Children's Hospital & Research Center At Oakland	2015	11/08/16
185045	Klamath Tribal Health & Family Services	2015	11/01/16
195537	County Of Passaic	2015	11/01/16
234403	Translational Genomics Research Institute	2015	11/01/16
4611	Woods Hole Research Center, Inc.	2016	11/01/16
25520	Gettysburg College	2016	11/03/16
48323	International City/County Management Association	2016	11/01/16
80320	Old Dominion University Research Foundation	2016	11/01/16
87899	University Of Miami	2016	11/01/16
101232	Baylor University	2016	11/02/16
108493	College Of Idaho	2016	11/03/16
116396	Reed Institute	2016	11/03/16
127595	San Diego State University Research Foundation	2016	11/01/16
137921	Idaho State University	2016	11/01/16
145869	Western Kentucky University	2016	11/01/16
148653	Central Michigan University	2016	11/02/16
181269	Catholic Charities Of Louisville, Inc.	2016	11/01/16
211781	South Carolina Research Foundation	2016	11/01/16
223375	Gsu Research And Service Foundation, Inc.	2016	11/01/16
153788	Boonville R-I School District	2016	11/01/16
170381	Tri-County Technical College	2016	11/01/16
177875	Brown County, Wisconsin	2015	11/02/16
187889	Ulster County, New York	2015	11/01/16
196118	Intertribal Agricultural Council	2015	11/01/16
197882	Lafayette School Corporation	2015	11/01/16
218814	Easter Seals Ucp North Carolina & Virginia, Inc. & Affiliate	2016	11/01/16
1366	University Of Vermont And State Agricultural College	2016	12/19/16
2190	Tufts University	2016	12/19/16
5982	Roger Williams University	2016	12/19/16
83401	Furman University	2016	12/19/16
101106	William Marsh Rice University	2016	12/19/16
125231	Western University Of Health Sciences	2016	12/19/16
127914	California State University Long Beach Research Foundation	2016	12/19/16
145872	University Of Kentucky	2016	12/19/16
148665	Oakland University	2016	12/19/16
152736	Lincoln University	2016	12/19/16
162412	The University Of Toledo	2016	12/19/16
162414	University Of Cincinnati	2016	12/19/16
180863	Camden County College	2016	12/19/16

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180900	Nevada System Of Higher Education	2016	12/19/16
197070	Oklahoma State University	2016	12/19/16
211692	Clemson University	2016	12/21/16
244560	Oregon State University	2016	12/20/16
244592	University Of Oregon	2016	12/19/16
100225	Tulsa Economic Development Corporation	2013	12/19/16
233371	The Food Basket, Inc.	2015	12/19/16
3122	Community Teamwork, Inc.	2016	12/19/16
33435	Janus Youth Programs, Inc.	2016	12/19/16
59870	Lac Courte Oreilles Ojibwa Community College	2016	12/19/16
92979	Vanderbilt University	2016	12/19/16
101117	St. Edward's University, Inc.	2016	12/19/16
116420	Linfield College	2016	12/19/16
124177	CSU Fullerton Auxiliary Services Corporation	2016	12/19/16
127000	Community Partners	2016	12/19/16
127716	University Enterprises Corporation At CSUSB	2016	12/19/16
134156	San Bernardino Community College District	2016	12/19/16
150621	Bay Mills Community College	2016	12/19/16
170768	Horry County School District	2016	12/19/16
174252	Galveston Community College District	2016	12/19/16
174488	Kemp Independent School District	2016	12/19/16
175301	Vermont State Colleges	2016	12/19/16
181025	Cankdeska Cikana Community College	2016	12/20/16
181756	Pinal County Community College District	2016	12/19/16
198236	Ilisagvik College	2016	12/19/16
201693	Kentucky Community And Technical College System	2016	12/19/16
227188	Food Bank Of Delaware, Inc.	2016	12/19/16
233708	State Public Charter School Commission	2016	12/19/16
95900	Mississippi Delta Council For Farm Workers Opportunities, Inc.	2014	12/19/16
1942	Northeastern University	2016	12/19/16
2667	Worcester Polytechnic Institute	2016	12/19/16
6735	Yale University	2016	12/19/16
25212	Ursinus College	2016	12/19/16
32445	Vermont Law School	2016	12/19/16
35229	Lafayette College	2016	12/19/16
42364	The College Of Wooster	2016	12/19/16
48426	Illinois Institute Of Technology	2016	12/19/16
64332	Trustees Of Grinnell College	2016	12/19/16
70282	University Of Kansas Center For Research	2016	12/19/16
93019	Meharry Medical College	2016	12/19/16

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97664	Arkansas Children's Hospital	2016	12/19/16
99746	Oklahoma City University	2016	12/19/16
112087	Mariposa Community Health Center, Inc.	2016	12/19/16
118364	Santa Clara University	2016	12/19/16
122380	San Jose State University Research Foundation	2016	12/19/16
130749	University Of Arkansas For Medical Sciences	2016	12/19/16
137901	Boise State University	2016	12/19/16
148657	Grand Valley State University	2016	12/19/16
152737	Missouri State University	2016	12/19/16
152746	Southeast Missouri State University	2016	12/19/16
162415	Bowling Green State University	2016	12/19/16
181048	Northeast Ohio Medical University	2016	12/19/16
185455	The Csu,Chico Research Foundation	2016	12/19/16
192565	University Of Oklahoma Norman Campus	2016	12/20/16
211695	University Of South Carolina	2016	12/19/16
220190	University Of Louisville And Affiliated Corporations	2016	12/19/16
232507	The New Mexico Consortium And Subsidary	2016	12/21/16
233262	The Kohala Center	2016	12/19/16
170383	York Technical College	2016	12/19/16
179453	Western Technical College District	2016	12/19/16
188836	Eastern Iowa Community College District	2016	12/20/16
240925	Drake University	2016	12/19/16
282	Goodwill Industries Of Northern New England	2016	12/19/16
79370	First Nations Development Institute And Subsidiary	2016	12/19/16
98491	The Administrators Of The Tulane Educational Fund	2016	12/19/16
150326	L'anse Creuse Public Schools	2016	12/19/16
150568	Saline Area Schools	2016	12/19/16
175878	Chittenden County Regional Planning Commission	2016	12/19/16
204527	National 4-H Council And Controlled Affiliates	2016	12/19/16
219107	The University Of Kansas Medical Center Research Institute, Inc.	2016	12/19/16
243857	Asian Services In Action, Inc.	2016	12/19/16
2131	Boston University	2016	02/07/17
2437	Marine Biological Laboratory	2016	02/06/17
2956	Third Sector New England, Inc .	2016	02/07/17
11478	Research Foundation Of The City University Of New York	2016	02/07/17
18543	Rochester Institute Of Technology	2016	02/07/17
45510	University Of Notre Dame Du Lac	2016	02/07/17
80988	West Virginia State University Research And Development Corporation	2016	02/07/17
101351	Texas A&M Research Foundation	2016	02/08/17
124397	Hubbs-Sea World Research Institute	2016	02/07/17

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137874	University Of Hawaii	2016	02/08/17
148655	Eastern Michigan University	2016	02/08/17
150676	Regents Of The University Of Minnesota	2016	02/07/17
154881	University Of Nebraska	2016	02/08/17
158024	New Mexico State University	2016	02/07/17
162382	Central State University	2016	02/06/17
162392	The Ohio State University	2016	02/07/17
164828	Langston University	2016	02/06/17
175013	State Of Utah	2016	02/06/17
192446	University Of Massachusetts	2016	02/07/17
193608	Community College District Of Newton And McDonald Counties, Missouri	2016	02/06/17
233569	Partners Healthcare System, Inc. And Affiliates	2016	02/07/17
2130	Trustees Of Boston College	2016	02/07/17
24340	Cary Institute Of Ecosystem Studies, Inc.	2016	02/07/17
25540	Saint Joseph's University	2016	02/06/17
33816	Sitting Bull College	2016	02/07/17
96882	Universidad Interamericana De Puerto Rico	2016	02/07/17
119196	North Coast Opportunities, Inc.	2016	02/07/17
124493	Cal Poly Pomona Foundation, Inc.	2016	02/07/17
130503	Pima County Community College District	2016	02/06/17
130557	Yuma/La Paz Community College District (Arizona Western College)	2016	02/07/17
133674	West Hills Community College District	2016	02/07/17
133999	Hartnell Community College District	2016	02/07/17
134345	Cabrillo Community College District	2016	02/07/17
154762	Aaniiih Nakoda College, Inc.	2016	02/07/17
158010	Eastern New Mexico University	2016	02/07/17
158041	University Of New Mexico	2016	02/07/17
173946	Alamo Community College District	2016	02/07/17
174197	El Paso County Community College District	2016	02/07/17
174338	Houston Community College System	2016	02/09/17
174864	Austin Community College District	2016	02/07/17
174919	Laredo Community College	2016	02/07/17
181090	South Texas College District	2016	02/07/17
187338	Del Mar College	2016	02/07/17
198517	Contra Costa Community College District	2016	02/07/17
212768	White Earth Tribal And Community College	2016	02/07/17
235969	The Food Bank Of Northeast Georgia, Inc.	2016	02/07/17
235091	Global Food Protection Institute	2015	02/07/17
356	Coastal Enterprises, Inc. & Subsidiaries	2016	02/07/17

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17157	Rensselaer Polytechnic Institute	2016	02/07/17
21715	Prevent Child Abuse - New Jersey Chapter, Inc.	2016	02/07/17
25536	Delaware Valley University	2016	02/07/17
47882	Loyola University Chicago	2016	02/07/17
78063	The Nature Conservancy	2016	02/06/17
81366	Wake Forest University	2016	02/07/17
88532	Nova Southeastern University	2016	02/07/17
114648	Mercy Corps And Affiliates	2016	02/07/17
118672	University Enterprises, Inc.	2016	02/07/17
145871	Murray State University	2016	02/09/17
148660	Lake Superior State University	2016	02/07/17
161050	Harnett County, North Carolina	2016	02/07/17
162411	Kent State University	2016	02/07/17
176059	Fauquier County Government And Public Schools	2016	02/07/17
189616	Illinois State University	2016	02/07/17
193634	Oregon Health & Science University	2016	02/07/17
203258	The Food Trust	2016	02/07/17
239596	The American Planning Association	2016	02/07/17
240478	Greater Lansing Food Bank	2016	02/07/17
131807	California State University	2016	02/09/17
152745	Northwest Missouri State University	2016	02/09/17
180907	Southwest Wisconsin Technical College	2016	02/07/17
184256	The County Commissioners Of Caroline County	2016	02/07/17
205751	Klamath Community College District	2016	02/07/17
33779	Dccca, Inc	2016	02/07/17
145682	Northwest Kansas Educational Service Center Interlocal District No.602	2016	02/07/17
161190	Wake County, North Carolina	2016	02/09/17
162393	Ohio University	2016	02/07/17
171698	City Of Johnson City	2016	02/07/17
179588	School District Of Janesville	2016	02/07/17
218327	Edward Via Virginia College Of Osteopathic Medicine	2016	02/07/17
227772	Federation Of Southern Cooperatives/Land Assistance Fund And Fsc	2014	05/19/17
15175	New York University	2016	05/19/17
15322	Columbia University	2016	05/19/17
17225	Research Foundation For The State University Of NY	2016	05/19/17
18064	Cornell University	2016	05/19/17
25545	University Of Pennsylvania	2016	05/22/17
48485	The University Of Chicago	2016	05/22/17
54157	Southern Illinois University	2016	05/22/17

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72985	The Johns Hopkins University	2016	05/22/17
74455	The American Farmland Trust	2016	05/22/17
80920	West Virginia University Research Corporation	2016	05/19/17
81635	Research Triangle Institute	2016	05/19/17
96890	Sistema Universitario Ana G. Mendez, Incorporado	2016	05/23/17
108191	National Center For Appropriate Technology	2016	05/19/17
128363	Hawaii Pacific University	2016	05/23/17
131804	University Of California	2016	05/23/17
134024	Anaheim Elementary School District	2016	05/19/17
134720	State Of Colorado	2016	05/23/17
136063	State Of Florida	2016	05/23/17
136829	State Of Georgia/State Accounting Office	2016	05/23/17
138560	Northern Illinois University	2016	05/19/17
142235	Indiana University	2016	05/19/17
143605	State Of Iowa	2016	05/23/17
144797	State Of Kansas	2016	05/23/17
145868	Kentucky State University	2016	05/23/17
147114	University Of Maine System	2016	05/24/17
147719	State Of Maryland	2016	05/24/17
147921	County Of Barnstable	2016	05/19/17
148661	Michigan State University	2016	05/24/17
148662	Michigan Technological University	2016	05/19/17
152738	University Of Missouri System	2016	05/19/17
158024	New Mexico State University	2016	05/19/17
166795	The Pennsylvania State University	2016	05/19/17
170255	State Of Rhode Island And Providence Plantations	2016	05/24/17
170831	State Of South Dakota	2016	05/24/17
171359	State Of Tennessee	2016	05/24/17
171944	State Of Texas C/O Comptroller Of Public Accounts	2016	05/24/17
175887	Commonwealth Of Virginia	2016	05/24/17
176362	State Of Washington C/O Office Of Financial Management	2016	05/25/17
177867	State Of Wisconsin	2016	05/25/17
180102	University Of Guam	2016	05/25/17
180985	Purdue University	2016	05/19/17
181178	Wayne State University	2016	05/25/17
181427	Brigham Young University	2016	05/19/17
181661	State Of North Carolina	2016	05/25/17
182312	New Jersey Institute Of Technology	2016	05/25/17
182945	Saginaw Chippewa Indian Tribe Of Michigan	2016	05/19/17
192840	Regents Of The University Of Michigan	2016	05/19/17

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193043	State Of Mississippi Institutions Of Higher Learning	2016	05/25/17
194401	American Samoa Community College	2016	05/25/17
197537	Emory University	2016	05/19/17
198496	University Of Delaware	2016	05/19/17
200449	Alabama A&M University	2016	05/19/17
212629	South Carolina State University	2016	05/31/17
212942	State Of Arkansas	2016	05/31/17
219643	Delaware State University	2016	05/19/17
225360	Michigan Physical Fitness Health And Sports Foundation	2016	05/19/17
233420	Capital Resource Conservation And Development Area Council, Inc.	2016	05/19/17
242670	College Of The Muscogee Nation	2016	05/19/17
242736	University System Of New Hampshire	2016	05/19/17
6077	Thundermist Health Center And Affiliates	2016	05/19/17
8813	Suffolk County Community College	2016	05/19/17
9545	Cypress Hills Local Development Corporation	2016	05/19/17
18063	Syracuse University	2016	05/19/17
25438	The Pennsylvania Horticultural Society	2016	05/19/17
27062	Health Promotion Council Of Southeastern Pennsylvania, Inc	2016	05/19/17
31090	Oglala Lakota College	2016	05/19/17
42780	Case Western Reserve University	2016	05/19/17
60472	College Of The Menominee Nation	2016	05/31/17
65863	Saint Louis University	2016	05/31/17
68497	Nueta Hidatsa Sahnish College	2016	05/31/17
68499	Turtle Mountain Community College	2016	05/19/17
68916	Sinte Gleska University	2016	05/19/17
69537	The Center For Rural Affairs & Controlled Organizations	2016	05/19/17
101129	University Of The Incarnate Word	2016	05/31/17
108237	Salish Kootenai College, Inc.	2016	05/19/17
111110	Navajo Technical University	2016	05/19/17
111249	Biomedical Research Institute Of New Mexico	2016	05/19/17
122401	The Health Trust And Subsidiary	2016	05/19/17
130463	Maricopa County Community College District	2016	05/31/17
138493	Chicago State University	2016	05/31/17
142300	Ivy Tech Community College	2016	05/19/17
150662	State Of Minnesota	2016	05/31/17
152717	Mississippi Band Of Choctaw Indians	2016	05/19/17
158027	Northern New Mexico College	2016	05/31/17
177417	Northwest Indian College	2016	05/19/17
179495	Milwaukee Public Schools	2016	05/31/17
179717	Menominee Tribal Enterprise	2016	05/31/17

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182723	Northeast Texas Public Health District	2016	05/19/17
187283	San Diego Community College District	2016	05/19/17
193066	Institute Of American Indian And Alaska Native Culture And Arts Devel	2016	05/19/17
193596	Northeastern Illinois University	2016	05/31/17
202015	Little Big Horn College	2016	05/19/17
202042	State Center Community College District	2016	05/19/17
204050	Nebraska Indian Community College	2016	05/19/17
204563	Tohono O'odham Community College	2016	05/19/17
217183	Leech Lake Tribal College, Inc.	2016	05/19/17
227268	YMCA Of Greater Grand Rapids	2016	05/19/17
238068	Greenfield Community College	2016	05/31/17
238807	Keweenaw Bay Ojibwa Community College	2016	05/19/17
244698	Youngstown Neighborhood Development Corporation	2016	05/19/17
738	Trustees Of Dartmouth College	2016	05/19/17
895	Southern New Hampshire Services, Inc.	2016	05/19/17
1344	Middlebury College	2016	05/19/17
2155	Harvard University	2016	05/19/17
2164	Massachusetts Institute Of Technology	2016	05/19/17
5865	Brown University	2016	05/19/17
6005	Gordon Research Conferences And Subsidiary	2016	05/19/17
6735	Yale University	2016	05/19/17
10677	The Rockefeller University	2016	05/19/17
17258	Trudeau Institute, Inc.	2016	05/19/17
18167	Clarkson University	2016	05/31/17
18565	University Of Rochester	2016	06/01/17
20066	Princeton University	2016	05/19/17
20545	Stevens Institute Of Technology	2016	06/01/17
25515	Drexel University	2016	05/19/17
25517	Franklin & Marshall College	2016	05/19/17
25638	Temple University	2016	05/19/17
35765	University Of Pittsburgh Of The Commonwealth System Of Higher Educatio	2016	06/01/17
35809	Carnegie Mellon University	2016	05/19/17
41431	Torrey Pines Institute For Molecular Studies	2016	05/19/17
58639	Marquette University	2016	06/01/17
65853	Washington University	2016	05/19/17
77824	The George Washington University	2016	05/19/17
77976	Resources For The Future, Inc.	2016	05/19/17
78369	University Of Richmond And Its Affiliates	2016	05/19/17
81362	Duke University	2016	05/19/17

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87167	National Foundation For The Centers For Disease Control And Prevention	2016	05/19/17
109269	University Corporation For Atmospheric Research	2016	05/19/17
117856	Children's Hospital & Research Center Oakland	2016	05/19/17
123466	University Of Southern California	2016	05/19/17
123517	Chapman University And Affiliates	2016	06/01/17
131856	County Of Mono	2016	05/19/17
137965	State Of Idaho	2016	06/01/17
138595	Western Illinois University	2016	06/01/17
142179	Ball State University	2016	05/19/17
147913	Commonwealth Of Massachusetts	2016	06/01/17
155928	State Of Nevada	2016	06/06/17
161050	Harnett County, North Carolina	2016	05/19/17
166791	Commonwealth Of Pennsylvania	2016	06/07/17
181377	Montclair State University	2016	05/19/17
181667	State Of New Jersey	2016	06/07/17
181877	Children's Hospital Medical Center	2016	05/19/17
182235	Karuk Tribe	2016	05/19/17
199127	Community Action Agency Of Jackson, Lenawee, And Hillsdale	2016	05/19/17
207799	Chicago Horticultural Society	2016	05/19/17
232433	Tri County Council For Southern Maryland	2016	05/19/17
235091	Global Food Protection Institute Dba International Food Protection Tra	2016	05/19/17
244593	Portland State University	2016	06/07/17
1535	Vermont Center For Independent Living, Inc.	2016	05/19/17
25824	United Cerebral Palsy Of Central Pennsylvania	2016	05/19/17
34298	Council Of State And Territorial Epidemiologists, Inc.	2016	05/19/17
59655	Hunger Task Force, Inc.	2016	05/19/17
73286	AARP Foundation	2016	05/19/17
128408	Kokua Kalihi Valley (Comprehensive Family Services) And Affiliate	2016	05/19/17
138010	City Of Boise, Idaho	2016	06/07/17
145682	Northwest Kansas Educational Service Center Interlocal District No.602	2016	05/19/17
150629	Hannahville Indian Community	2016	05/19/17
152133	State Of Mississippi	2016	06/07/17
177397	Quinault Indian Nation	2016	05/19/17
177522	Municipality Of Huntington	2016	05/19/17
179551	School District Of Amery	2016	05/19/17
203015	State Of Illinois Governor's Office Of Management And Budget	2016	06/07/17
211418	OCCK, Inc.	2016	05/19/17
226066	Visiting Nurse Health Services & Affiliates	2016	05/19/17

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2550	Woods Hole Oceanographic Institution	2016	09/14/17
119146	Public Health Institute	2016	09/14/17
123473	California Institute Of Technology	2016	09/14/17
128842	Auburn University	2016	09/14/17
128980	The University Of Alabama At Birmingham	2016	09/14/17
129783	State Of Alaska	2016	09/19/17
177452	State Of West Virginia	2016	09/19/17
177867	State Of Wisconsin	2016	09/19/17
180108	Northern Marianas College	2016	09/14/17
180267	University Of The Virgin Islands	2016	09/19/17
180900	Nevada System Of Higher Education	2016	09/19/17
181427	Brigham Young University	2016	09/14/17
181664	State Of Arizona	2016	09/19/17
183783	Cornell Cooperative Extension Of Suffolk County	2016	09/14/17
197375	College Of Micronesia	2016	09/14/17
200449	Alabama A&M University	2016	09/14/17
204571	Government Of The District Of Columbia	2016	09/20/17
217022	Lutheran Services In Iowa, Inc.	2016	09/14/17
236903	The Xerces Society, Inc.	2016	09/14/17
225299	Growing Power, Inc.	2015	09/14/17
227268	YMCA Of Greater Grand Rapids	2015	09/14/17
15491	International Rescue Committee, Inc.	2016	09/14/17
63205	Hmong American Partnership	2016	09/14/17
68991	Sisseton-Wahpeton College	2016	09/19/17
84668	Young Men's Christian Association Of Metropolitan Atlanta, Inc.	2016	09/14/17
99813	Samuel Roberts Noble Foundation, Inc	2016	09/14/17
108177	Chief Dull Knife College	2016	09/14/17
110753	Presbyterian Healthcare Services	2016	09/14/17
134460	Yosemite Community College District	2016	09/14/17
150662	State Of Minnesota	2016	09/20/17
175033	San Juan County	2016	09/14/17
193776	Fort Peck Community College	2016	09/14/17
196502	Sacramento Food Bank And Family Services	2016	09/14/17
213962	Little Priest Tribal College	2016	09/14/17
233526	Athens Land Trust, Inc.	2016	09/14/17
8827	Cold Spring Harbor Laboratory	2016	09/14/17
10689	Teachers College, Columbia University	2016	09/14/17
10969	Boyce Thompson Institute For Plant Research, Inc.	2016	09/14/17
25638	Temple University	2016	09/14/17
35683	American Institutes For Research In The Behavioral Sciences	2016	09/14/17

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35809	Carnegie Mellon University	2016	09/14/17
39110	Nationwide Children's Hospital, Inc. And Subsidiaries	2016	09/14/17
48349	National Opinion Research Center (Dba "Norc")	2016	09/14/17
76799	J. Craig Venter Institute	2016	09/14/17
86556	Georgia State University Research Foundation, Inc. And Affiliate	2016	09/14/17
94930	International Fertilizer Development Center	2016	09/14/17
98107	Winrock International Institute For Agricultural Development	2016	09/14/17
118321	Stanford University	2016	09/14/17
128921	University Of West Alabama	2016	09/14/17
129020	The University Of Alabama	2016	09/14/17
182151	Cornell Cooperative Extension Association Of Madison County	2016	09/14/17
187721	Cornell Cooperative Extension Of Albany County	2016	09/14/17
188469	College Of The Marshall Islands	2016	09/20/17
188480	Palau Community College	2016	09/14/17
202805	New York University Langone Medical Center	2016	09/14/17
203312	Donald Danforth Plant Science Center	2016	09/14/17
212092	Western Kentucky Refugee Mutual Assistance Society, Inc.	2016	09/14/17
234403	The Translational Genomics Research Institute And Affiliates	2016	09/14/17
243589	Mid Klamath Watershed Council	2016	09/14/17
245095	Cornell Cooperative Extension Association Of Onondaga County	2016	09/14/17
246139	College Of Micronesia-FSM	2016	09/14/17
246265	Cornell Cooperative Extension Association Of Erie County	2016	09/14/17
202	Maine Medical Center And Subsidiaries	2016	09/14/17
10788	The New York Academy Of Medicine	2016	09/14/17
113705	Yakima Valley Memorial Hospital Association Dba Virginia Mason Memoria	2016	09/14/17
114032	Opportunity Council	2016	09/14/17
114986	Multicare Health System	2016	09/14/17
119054	Fresno Economic Opportunities Commission	2016	09/14/17
134738	Boulder County, Colorado	2016	09/14/17
154217	Mid-America Regional Council	2016	09/14/17
176491	City Of Renton	2016	09/14/17
178024	City Of Madison	2016	09/14/17
185807	Spokane Regional Health District	2016	09/14/17
194318	East-West Gateway Council Of Governments	2016	09/14/17
196118	Intertribal Agricultural Council	2016	09/14/17
207820	Catholic Charities Of Spokane	2016	09/14/17
221072	Fund For Public Health In New York, Inc.	2016	09/14/17
228511	Covenant Health, Inc.	2016	09/14/17
245132	Oneoc	2016	09/14/17
245229	Ecology Center	2016	09/14/17

Audit Report No.	Institution	Year Ending	Closed Date
38426	Easter Seals Tristate LLC	2016	09/14/17
45995	Hoosier Uplands Economic Development Corporation	2016	09/14/17
177397	Quinault Indian Nation	2016	09/14/17
184062	California Foundation For Independent Living Centers	2016	09/14/17
221794	Rocky Mountain Bird Observatory Dba Bird Conservancy Of The Rockies	2016	09/14/17
233786	Cornell Cooperative Extension Association Of Oneida County	2016	09/14/17
245163	Cornell Cooperative Extension Of Wayne County	2016	09/14/17
234403	Translational Genomics Research Institute	2015	10/04/16
245070	Tyonek Tribal Conservation District	2015	10/04/16
245095	Cornell Cooperative Extension Association Of Onondaga County	2015	10/04/16
127	University Of New England	2016	10/06/16
134738	Boulder County, Colorado	2015	10/06/16
158417	County Of Wayne	2015	10/04/16
177875	Brown County, Wisconsin	2015	10/06/16
184062	California Foundation For Independent Living Centers	2015	10/04/16
187889	Ulster County, New York	2015	10/04/16
196118	Intertribal Agricultural Council	2015	10/04/16
211418	OCCK, Inc.	2015	10/06/16
233786	Cornell Cooperative Extension Association Of Oneida County	2015	10/04/16

A-133 audit reviews for the grantees listed below were in progress for 2018.

Audit Report No.	Institution	Year Ending
192115	The Navajo Nation	2016
179770	University Of Wyoming	2016
114688	Heritage University	2016
194414	New Mexico Highlands University	2016
94539	Tuskegee University	2016
138590	University Of Illinois	2016
146632	State Of Louisiana	2016
181658	State Of Connecticut	2016
182926	Rutgers, The State University Of New Jersey	2016
211692	Clemson University	2016
216666	Battelle Memorial Institute	2016

OIG Reports

There were no audits completed during fiscal year 2017.

The audits below are ongoing in fiscal year 2018.

OIG Audit Report Number	Audit Report Name
13601-0001-22	NIFA Formula Grant Program Controls Over Fund Allocations to States

GAO Studies

The reports below were completed during fiscal year 2017.

GAO Report Number	Report Name	Completed Date
GAO Report 17-453	Small Business Research Programs: Most Agencies Met Spending Requirements but, DOD and EPA Need to Improve Data Reporting	05/31/2017
GAO Report 17-108	Renewable Fuel Standards: Low Expected Production Volumes Make it Unlikely that Advanced Biofuels Can Meet Increasing Targets	11/28/2016
GAO Report 17-113	Grants Management: Selected Agencies Should Clarify Merit Based Award Criteria and Provide Guidance for Reviewing Potentially Duplicative Awards	1/12/2017
GAO Report 17-119	Environmental Protection: Information on Federal Agencies' Expenditures and Coordination on Related to Harmful Algae	10/14/2016
GAO Report 17-491SP	FY 2017 Annual Report: Additional Opportunities to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits (FNS)	04/26/2017
GAO Report 17-360	Avian Influenza USDA Has Taken Actions but Needs a Plan to Evaluate Its Actions	04/13/2017
GAO Report 17-337	SBIR Additional Actions Needed to Implement Fraud, Waste, and Abuse Prevention Requirements	04/25/2017

The reviews below are ongoing in fiscal year 2018.

GAO Review Number	Review Name
GAO Job Code 101178	STEM Education Program
GAO Job Code 101978	SBIR & STTR Programs Commercializing Technologies Benchmarks
GAO Job Code 101279	Arsenic in Rice
GAO Job Code 101406	Renewable Fuel Standard (RFS) and its influence on transportation fuel prices and greenhouse gas emissions

Available Funds and Staff Years (SYs)
(Dollars in thousands)

Item	2016 Actual Amount	2016 Actual SYs	2017 Actual Amount	2017 Actual SYs	2018 Estimate Amount	2018 Estimate SYs	2019 President's Budget Amount	2019 President's Budget SYs
Research and Education Activities:								
Discretionary Appropriations	$819,685	217	$849,518	216	$843,750	222	$794,479	210
Native American Endowment Fund (Interest Earned):								
Discretionary Appropriations	4,706		4,823		4,660		4,983	
Extension Activities:								
Discretionary Appropriations	475,891	143	477,391	137	474,150	141	450,185	133
Mandatory Appropriations	45,000	-	45,000	-	50,000	-	5,000	-
General Provision Appropriation	-	-	5,000	-	4,966	-	-	-
Integrated Activities:								
Discretionary Appropriations	30,900	5	36,000	5	35,756	5	13,037	2
Mandatory Appropriations	100,000	-	100,000	-	100,000	-	80,000	-
Biomass Research and Development Initiative:								
Mandatory Appropriations	3,000	-	3,000	-	-	-	-	-
Sequestration	-10,064	-	-10,212	-	-9,900	-	-	-
Transfers In	102	-	90	-	-	-	-	-
Adjusted Appropriation	1,469,220	365	1,510,610	358	1,503,382	368	1,347,684	345
Balance Available, SOY	394,128	-	490,377	-	563,847	-	-	-
Recoveries	31,732	-	19,643	-	-	-	-	-
Total Available	1,895,080	365	2,020,630	358	2,067,229	368	1,347,684	345
Lapsing Balances	-928	-	-335	-	-	-	-	-
Balance Available, EOY	-490,377	-	-563,847	-	-	-	-	-
Obligations	1,403,775	365	1,456,448	358	2,067,229	368	1,347,684	345
Other Appropriations:								
Biodiesel Fuel Education Program	932	-	931	-	931	-	-	-
Community Food Projects Program	9,000	-	9,000	-	9,000	-	9,000	-
Total, Other Appropriations	9,932	-	9,931	-	9,931	-	9,000	-
Total, Appropriations	1,413,707	365	1,466,379	358	2,077,160	368	1,356,684	345
Obligations under other USDA appropriations:								
Research and Education Activities:								
Agricultural Research Service:								
Biotechnology Risk Assessment	1,519	-	1,600	-	1,600	-	1,600	
National Atmospheric Deposition Program	7	-	5	-	5		5	
Agricultural Marketing Service:								
Civil Rights:								
Salary, Benefits and Operating Expenses for Detailees	40	-	-	-	-	-	-	-
Forest Service:								
National Atmospheric Deposition Program	197	-	198	-	180	-	180	-
Biotechnology Risk Assessment	95	-	108	-	108	-	108	-
Salary, Benefits and Operating Expenses for Detailees	15	-	-	-	-	-	-	-
Foreign Agricultural Service:								
Salary, Benefits and Operating Expenses for Detailees	53	-	-	-	-	-	-	-
Office of the Chief Scientist:								
Salary, Benefits and Operating Expenses for Detailees	206	-	208	-	-	-	-	-
Various agencies sharing cost of the USDA Small								
Business Innovation Research Program (SBIR)	2,771	-	2,454	-	2,400	-	2,400	-
Various research agencies sharing cost of the Current								
Research Information System (CRIS)	640	-	70	-	70	-	70	-
Other Anticipated Reimbursable Agreements	-	-	-	-	-	-	-	-
Subtotal, Research and Education	5,543	-	4,643	-	4,363	-	4,363	-

Item	2016 Actual Amount	SYs	2017 Actual Amount	SYs	2018 Estimate Amount	SYs	2019 President's Budget Amount	SYs
Extension Activities:								
Rural Development:								
Vision & Roadmap for Maine's Forest Sector	-	-	150	-	-	-	-	-
Subtotal, Extension	-	-	150	-	-	-	-	-
Total, Other USDA Appropriations	5,543	-	4,793	-	4,363	-	4,363	-
Other Federal Funds:								
Research and Education Activities:								
US Air Force:								
US Air Force AFMMOA/SGHW								
Family Advocacy Program	350	-	2,522	-	-	-	-	-
US Air Force Traumatic Brain Injury	-	-	1,500	-	-	-	-	-
Air Force Mental Healthh Research	971	-	-	-	-	-	-	-
Sexual Assualt Research	1,519	-	-	-	-	-	-	-
Department of Commerce:								
NOAA National Atmospheric Deposition Program	235	-	190	-	173	-	173	-
Department of Defense:								
Professional Development Delivery Model	1,347	-	1,000	-	-	-	-	-
School Staff to Support Students Military Members	600	-	-	-	-	-	-	-
Military Community and Family Policy	1,361	-	-	-	-	-	-	-
Environmental Protection Agency:								
National Atmospheric Deposition Program	536	-	538	-	464	-	464	-
Water for Agriculture Challenge Area	-	-	330	-	-	-	-	-
Department of Interior:								
Geological Survey,								
National Atmospheric Deposition Program	608	-	579	-	532	-	532	-
National Park Service,								
National Atmospheric Deposition Program	391	-	405	-	372	-	372	-
Bureau of Land Management,								
National Trends Network	52	-	38	-	49	-	49	-
Other Anticipated Reimbursable Agreements	-	-	-	-	5,600	-	5,600	-
Subtotal, NIFA Research	7,970	-	7,102	-	7,190	-	7,190	-
Other Federal Funds:								
Extension Activities:								
Department of Defense:								
Army Evaluation Program	318	-	-	-	-	-	-	
Army Substance Abuse Program, Ft-Sam	419	-	-	-	-	-	-	
Army/4-H Military Partnership	600	-	1,300	-	1,300	-	1,300	
Army Youth Development Program	-	-	-	-	540	-	540	
Air Force 4-H Programs	-	-	-	-	400	-	400	
Air Force Family Advocacy Program (Kansas State)	-	-	-	-	1,000	-	1,000	
Air Force Partnership & Outreach and Support	400	-	600	-	-	-	-	
Air Force Mental Health Risk Management	311	-	-	-	-	-	-	
Air Force Psychological Health (Penn State)	-	-	-	-	1,000	-	1,000	
Clearinghouse for Military Family Readiness	1,870	-	2,520	-	1,000	-	1,000	
DOD K-8 Gifted Education Program	229	-	-	-	-	-	-	
DOD K-8 Health Education	176	-	-	-	-	-	-	
Family Life Skills, Fort Sam Houston (TX AgriLife Ext. Services)	-	-	-	-	400	-	400	
Family Advocacy Program Indident Determination Committee	2,365		2,150		1,000		1,000	
Family Advocacy Program	449	-	-	-	-	-	-	
Mental Health Risk Management-Zero Suicide Framework	1,240	-	-	-	-	-	-	
Military Family Learning Network	-	-	-	-	2,000	-	2,000	
Military Family Learning Networks Leadership & Core Support	777		2,255				-	
Military Family Learning Networks Concentration	1,215	-	-	-	-	-	-	
Military Family Learning Virtual Learning Events	194	-	-	-	-	-	-	
Military Spouse License	400	-	-	-	-	-	-	
Professional Development Delivery Model for DoDEA	-	-	-	-	500	-	500	
Project Youth Extension Services	1,200	-	1,000	-	-	-	-	
Project Military REACH	660	-	660	-	660	-	660	
Teen Adventure Camps	770	-	1,032	-	500	-	500	
Substance Abuse Program Joint Base San Antonio, TX	-	-	422	-	-	-	-	
Suicide Prevention Professional Development	159	-	39	-	-	-	-	
Virtual Lab School	500	-	2,000	-	1,000	-	1,000	
Department of Housing and Urban Development:							-	
IPM Training to Public Housing Authorities	400	-	400	-	400	-	400	
Healthy Homes	250	-	250	-	325	-	325	
U.S. Department of Navy:							-	
Extension System-Military Partnership							-	
Navy/4-H Military Partnership and Outreach and Support	1,190	-	1,178	-	900	-	900	
Navy Youth Sports and Fitness Project	451	-	303	-	451	-	451	
Other Anticipated Reimbursements	-	-	-	-	3,000	-	3,000	
Subtotal, Extension Other Federal Funds	16,543	-	16,109	-	16,376	-	16,376	-
Total, NIFA Other Federal Funds	24,513	-	23,211	-	23,566	-	23,566	-
Total, NIFA Available Funds	1,443,763	365	1,494,383	358	2,105,089	368	1,384,613	345

Permanent Positions by Grade and Staff Year Summary

Item	2016 Actual Wash. D.C.	2017 Actual Wash. D.C.	2018 Estimate Wash. D.C.	2019 President's Budget Wash. D.C.
Senior Executive Service	8	8	8	8
GS-15	75	75	75	77
GS-14	57	57	57	57
GS-13	68	68	68	64
GS-12	83	83	83	86
GS-11	33	33	33	30
GS-10	7	7	7	7
GS-9	23	23	23	23
GS-8	14	14	14	14
GS-7	28	28	28	30
GS-6	8	8	8	9
GS-5	4	4	4	3
GS-4	3	3	3	3
GS-3	1	1	1	1
Total Perm. Positions	412	412	412	412
Unfilled, EOY	-63	-73	-53	-72
Total, Perm. Full-Time Employment, EOY	349	339	359	340
Staff Year Est	365	358	368	345

Shared Funding Projects
(Dollars in thousands)

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Working Capital Fund:				
Administration:				
HR Enterprise System Management	$6	$6	$6	$8
Integrated Procurement System	37	36	34	34
Mail and Reproduction Management	263	313	300	302
Material Management Service Center	53	67	58	64
Subtotal	358	422	399	409
Communications:				
Creative Media & Broadcast Center	24	66	38	30
Correspondence Management Services:				
Office of the Executive Secretariat	42	37	33	36
Finance and Management:				
Financial Management Services	606	625	610	1,042
Internal Control Support Services	120	132	128	128
NFC/USDA	108	104	109	109
Subtotal	834	861	847	1,279
Information Technology:				
Client Technology Service	375	585	410	412
Enterprise Network Services	218	197	201	278
NITC/USDA	610	523	583	583
Subtotal	1,203	1,305	1,194	1,273
Total, Working Capital Fund	2,461	2,691	2,511	3,026
Department Shared Cost Programs:				
1890's USDA Initiatives	12	14	12	12
Advisory Committee Liaison Services	2	2	2	2
Classified National Security Information	3	3	3	3
Continuity of Operations Planning	8	8	7	7
Emergency Operations Center	9	9	8	8
Facility and Infrastructure Review and Assessment	2	2	1	1
Faith-Based Initiatives and Neighborhood Partnerships	1	1	1	1
Hispanic-Serving Institutions National Program	7	7	6	6
Honor Awards	a/	0	a/	a/
Human Resources Transformation (inc. Diversity Council)	6	6	6	6
Identity & Access Management (HSPD-12)	26	25	22	22
Intertribal Technical Assistance Network	12	11	10	10
Medical Services	31	27	30	30
People's Garden	3	2	2	2
Personnel and Document Security	4	4	3	3
Pre-authorizing Funding	15	22	12	12
Retirement Processor/Web Application	2	2	2	2

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
TARGET Center	6	5	5	5
USDA 1994 Program	3	3	3	3
Virtual University	8	8	6	6
Total, Department Shared Cost Programs	160	161	140	140
E-Gov:				
Budget Formulation & Execution Line of Business	3	3	2	2
Enterprise Human Resources Integration	8	8	7	7
E-Rulemaking	7	13	17	14
E-Training	10	-	-	-
Financial Management Line of Business	1	1	1	1
Geospatial Line of Business	7	13	13	13
Grants.gov	166	375	362	344
Human Resources Line of Business	1	1	1	1
Integrated Acquisition Environment	23	54	55	59
FOIA	-	-	-	2
Total, E-Gov	226	468	457	442
Agency Total	2,847	3,321	3,109	3,608

a/ Less than $500.

Appropriation Language

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, **[**$843,750,000**]**$794,479,000: *Provided*, That funds for research grants for 1994 institutions, education grants for 1890 institutions, the agriculture and food research initiative, veterinary medicine loan repayment, 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: *Provided further*, That not more than 5 percent of the amounts made available by this or any other Act to carry out the Agriculture and Food Research Initiative under 7 U.S.C. [450i] 3157(b) may be retained by the Secretary of Agriculture to pay administrative costs incurred by the Secretary in carrying out that authority.

The first change updates the statutory reference to the AFRI authority, which was editorially reclassified from 450i to 3157.

Native American Institutions Endowment Fund

For the Native American Institutions Endowment Fund authorized by Public Law 103–382 (7 U.S.C. 301 note), $11,857,000, to remain available until expended.

Lead-Off Tabular Statement
Research and Education Activities

Budget Estimate, 2019	$794,479,000
2018 Annualized Continuing Resolution	843,750,000
Change in Appropriation	-49,271,000

RESEARCH AND EDUCATION ACTIVITIES
Project Statement
Adjusted Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.			2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount		SYs	Amount	SYs
Discretionary Appropriations:											
Hatch Act	$243,701	-	$243,701	-	$242,045	-	$1,193	(1)	-	$243,238	
McIntire-Stennis Cooperative Forestry Research Program	33,961	-	33,961	-	33,731	-	-4,864	(2)	-	28,867	
Capacity Building for Non-Land Grant Colleges of Agriculture	5,000	-	5,000	-	4,966	-	-4,966	(A)	-	-	
Animal Health and Disease Research, Section 1433	4,000	-	4,000	-	3,973	-	-3,973	(A)	-	-	
Supplemental and Alternative Crops, Section 1473D	825	-	825	-	819	-	-819	(A)	-	-	
Aquaculture Centers, Section 1475	4,000	-	4,000	-	3,973	-	-3,973	(A)	-	-	
Sustainable Agriculture (SARE)	24,667	-	27,000	-	26,817	-	-7,808	(3)	-	19,009	
Farm Business Management and Benchmarking Program	1,450	-	1,450	-	1,440	-	-1,440	(A)	-	-	
Sun Grant Program	2,500	-	3,000	-	2,980	-	-2,980	(A)	-	-	
Alfalfa Forage and Research Program	2,000	-	2,250	-	2,235	-	-2,235	(A)	-	-	
Evans-Allen Payments to 1890 Colleges and Tuskegee University	54,185	-	54,185	-	53,817	-	-	(4)	-	53,817	
Minor Crop Pest Mgmt, IR-4	11,913	-	11,913	-	11,832	-	-	(5)	-	11,832	
1994 Institutions Research Program	1,801	-	1,801	-	1,789	-	-	(6)	-	1,789	
Agriculture and Food Research Initiative	350,000	-	375,000	-	372,453	-	2,547	(7)	-	375,000	
Special Research Grants											
Global Change/UV Monitoring	1,405	-	1,405	-	1,395	-	-1,395	(A)	-	-	
Other Special Research Grants	3,350	-	3,600	-	3,576	-	-3,576	(A)	-	-	
Total Special Research Grants	4,755	-	5,005	-	4,971	-	(4,971)		-	-	-
Federal Administration (direct appropriation):											
Grants Management Systems	7,830	-	7,830	-	7,777	-	-353	(8a)	-	7,424	
GSA Rent and DHS Security Expenses	5,960	-	5,960	-	5,920	-	-5,920	(8b)	-	-	
Other General Administration	6,549	-	6,549	-	6,505	-	+5,072	(8c)	-	11,577	
Total Federal Administration	20,339	-	20,339	-	20,202	-	-1,201		-	19,001	-
Subtotal Research	765,097	-	793,430	-	788,043	-	-35,490		-	752,553	-
Higher Education:											
Inst. Challenge, Multicultural Scholars, and Graduate Fellowship Grants	9,000	-	9,000	-	8,939	-	-8,939	(B)	-	-	
Secondary/2-Year Post Secondary	900	-	900	-	894	-	-894	(B)	-	-	
Veterinary Services Grant Program	2,500	-	2,500	-	2,483	-	-2,483	(B)	-	-	
1890 Institution Capacity Building Grants	19,336	-	19,336	-	19,205	-	-	(9)	-	19,205	
Veterinary Medical Services Act	5,000	-	6,500	-	6,456	-	-1,465	(10)	-	4,991	
Hispanic Serving Institutions Education Grants Program	9,219	-	9,219	-	9,156	-	-	(11)	-	9,156	
Tribal Colleges Education Equity Grants Program	3,439	-	3,439	-	3,416	-	-	(12)	-	3,416	
Alaska Native-serving and Native Hawaiian-Serving Institutions	3,194	-	3,194	-	3,172	-	-	(13)	-	3,172	
Grants for Insular Areas	2,000	-	2,000	-	1,986	-	-	(14)	-	1,986	
Subtotal Education	54,588	-	56,088	-	55,707	-	-13,781		-	41,926	-
Total Adjusted Appropriation	819,685	-	849,518	-	843,750	-	-49,271		-	794,479	-
Endowment Funds:											
Native American Institutions Endowment Fund	(11,880)	-	(11,880)	-	(11,799)	-	(+58)	(15)	-	(11,857)	
Native American Institutions Endowment - Interest Earned	4,706	-	4,823	-	4,660	-	+323		-	4,983	
Endowment Subtotal	4,706	-	4,823	-	4,660	-	+323		-	4,983	-
Total Appropriation	824,391	-	854,341	-	848,410	-	-48,948		-	799,462	-
Congressional Relations	54	-	48	-	-	-	-		-	-	-
Total	54	-	48	-	-	-	-		-	-	-
Balance Available, SOY	328,732	-	443,837	-	492,552	-	-492,552		-	-	-
Recoveries, Other (Net)	22,919	-	17,213	-	-	-	0		-	-	-
Total Available	1,176,096	-	1,315,439	-	1,340,962	-	-541,500		-	799,462	-
Lapsing Balances	-809	-	-322	-	-	-	0		-	-	-
Balance Available, EOY	-443,837	-	-492,552	-	-	-	0		-	-	-
Total Obligations	731,450	217	822,565	216	1,340,962	222	-541,500		-12	799,462	210

RESEARCH AND EDUCATION ACTIVITIES
Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Hatch Act	243,681	-	243,701	-	242,045	-	$1,193	-	$243,238	
McIntire-Stennis Cooperative Forestry Research Program	$33,916	-	$33,961	-	33,731	-	-4,864	-	28,867	
Capacity Building for Non-Land Grant Colleges of Agriculture	4,526	-	4,986	-	4,966	-	-4,966	-	-	
Animal Health and Disease Research, Section 1433	3,991	-	4,000	-	3,973	-	-3,973	-	-	
Supplemental and Alternative Crops, Section 1473D	825	-	825	-	819	-	-819	-	-	
Aquaculture Centers, Section 1475	4,000	-	4,000	-	3,973	-	-3,973	-	-	
Sustainable Agriculture (SARE)	24,667	-	27,000	-	26,817	-	-7,808	-	19,009	
Farm Business Management and Benchmarking Program	1,450	-	1,450	-	1,440	-	-1,440	-	-	
Sun Grant Program	2,500	-	3,000	-	2,980	-	-2,980	-	-	
Alfalfa Forage and Research Program	2,000	-	2,250	-	2,235	-	-2,235	-	-	
Evans-Allen Payments to 1890 Colleges and Tuskegee University	54,185	-	54,185	-	53,817	-	-	-	53,817	
Minor Crop Pest Mgmt, IR-4	11,913	-	11,913	-	11,832	-	-	-	11,832	
1994 Institutions Research Program	1,698	-	2,035	-	1,789	-	-	-	1,789	
Agriculture and Food Research Initiative	279,454	-	351,070	-	861,353	-	-486,353	-	375,000	
Special Research Grants								-		
Other Special Research Grants	3,350	-	3,600	-	3,576	-	-3,576	-	-	
Global Change/UV Monitoring	1,405	-	1,405	-	1,395	-	-1,395	-	-	
Total Special Research Grants	4,755	-	5,005	-	4,971	-	-4,971	-	-	-
Federal Administration (direct appropriation):										
Grants Management Systems	4,782	-	5,399	-	7,777	-	-353	-	7,424	
GSA Rent and DHS Security Expenses	5,960	-	5,960	-	5,920	-	-5,920	-	-	
Other General Administration	6,603	-	6,597	-	6,505	-	5,072	-	11,577	
Total Federal Administration	17,345	-	17,956	-	20,202	-	-1,201	-	19,001	-
Subtotal Research	690,906	-	767,337	-	1,276,943	-	-524,390	-	752,553	-
Higher Education:										
Inst. Challenge, Multicultural Scholars, and Graduate Fellowship Grants	9,251	-	8,535	-	10,163	-	-10,163	-	-	
Secondary/2-Year Post Secondary	900	-	900	-	894	-	-894	-	-	
Veterinary Services Grant Program	2,500	-	2,500	-	2,483	-	-2,483	-	-	
1890 Institution Capacity Building Grants	1,235	-	18,398	-	20,429	-	-1,224	-	19,205	
Veterinary Medical Services Act	2,149	-	650	-	6,456	-	-1,465	-	4,991	
Hispanic Serving Institutions Education Grants Program	9,219	-	9,219	-	9,156	-	-	-	9,156	
Tribal Colleges Education Equity Grants Program	3,439	-	3,439	-	3,416	-	-	-	3,416	
Alaska Native-serving and Native Hawaiian-Serving Institutions	3,194	-	3,194	-	3,172	-	-	-	3,172	
Grants for Insular Areas	2,000	-	1,998	-	1,986	-	-	-	1,986	
Subtotal Education	33,887	-	48,833	-	58,155	-	-16,229	-	41,926	-
Subtotal Research and Education	724,793	-	816,170	-	1,335,098	-	-540,619	-	794,479	-
Endowment Funds:										
Native American Institutions Endowment Fund	(11,880)	-	(11,880)	-	(11,799)	-	(+58)	-	(11,857)	
Native American Institutions Endowment - Interest Earned	6,657	-	6,394	-	5,864	-	-881	-	4,983	
Endowment Subtotal	6,657	-	6,394	-	5,864	-	-881	-	4,983	-
Subtotal, Discretionary Obligations	731,450	-	822,565	-	1,340,962	-	-541,500	-	799,462	-
Lapsing Balances	809	-	322	-	-	-	-	-		
Balance Available, EOY	443,837	-	492,552	-	-	-	-	-		
Total Available	1,176,096	-	1,315,439	-	1,340,962	-	-541,500	-	799,462	-
Congressional Relations	-54	-	-48	-	-	-	-	-		
Balance Available, SOY	-328,732	-	-443,837	-	-492,552	-	492,552	-		
Recoveries, Other (Net)	-22,919	-	-17,213	-	-	-	-	-		
Total Appropriations	824,391	217	854,340	216	848,410	222	-48,948	-12	799,462	210

Justification of Increases and Decreases

RESEARCH AND EDUCATION ACTIVITIES

(1) An increase of $1,193,000 for Hatch Act ($242,045,000 available in 2018).

Hatch base capacity funds are used to support continuing agricultural research at 1862 LGUs and State Agricultural Experiment Stations (SAES). Hatch funds 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 U.S. Hatch funded scientists undertake research on the problems of agriculture in its broadest aspects, which serve to develop and improve rural communities and maximize contributions of agriculture to the welfare of the consumer. Much of the research supported with Hatch funds at the State level is not amenable to support by competitive grants or funding from private/corporate interests. For example, plant and animal breeding and genetics research needs long-term support provided by Hatch funds and cannot be sustained by individual 3-5 year competitive grants. The innovations supported by Hatch funds have demonstrably helped increase farm incomes, improved health, and enhanced the quality of life in America. In many cases, these funds provide seed money that enables researchers to become competitive for other sources of funding. Funding is requested to address local, regional, and national challenges in agriculture. This program serves LGUs which in turn serve the producers and consumers in their states. The capacity programs, including Hatch funds, leverage $1.86 for every dollar invested through matching from local and State sources. Increased funds will continue to support program activities.

(2) A decrease of $4,864,000 for McIntire-Stennis Cooperative Forestry Act ($33,731,000 available in 2018).

The McIntire-Stennis Research Program supports development of knowledge and innovations to sustain healthy, productive forests, agroforests, rangelands, and grasslands and address the challenges facing forest owners and the forest products industry. These challenges are increasing as our forest and rangelands experience new and more severe impacts from floods, droughts, pests, diseases, and invasive plants and animals. As these adverse impacts on the health and productivity of these lands continue to rise, the wellbeing of Rural America is impacted through lost jobs and resources. A decrease is proposed to direct funding to higher priority activities.

(3) A decrease of $7,808,000 for Sustainable Agriculture Research and Education (SARE) ($26,817,000 available in 2018).

Base funding will be used to increase knowledge of and help farmers and ranchers adopt practices that are profitable, environmentally sound, and beneficial for communities. Grants awarded by the four regional administrative councils support projects that address crop and livestock production and marketing, stewardship of soil and other natural resources, economics, and quality of life. The SARE program has a 25-year track record of success and stakeholder support from farmers and ranchers, the agricultural science community, and among federal agencies that benefit from the research and education activities that the program supports. The program will continue to focus on the high priority solutions for farmers and ranchers across all U.S. regions through grants provided to farmers and ranchers to develop innovative sustainable practices. The program supports the new USDA strategic goals to strengthen the stewardship of private lands through technology and research and maximize the ability of American agricultural producers to prosper by feeding and clothing the world. A decrease is proposed to direct funding to higher priority activities.

(4) Sustained support for Research at 1890 Institutions (Evans-Allen Program) ($53,817,000 available in 2018).

Evans-Allen Capacity funds are authorized under section 1445 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA), to support agricultural research activities at the 1890 LGUs, dissemination of the results, administrative planning and direction, and purchase and rental of land and the construction, acquisition, alteration, or repair of buildings necessary for conducting agricultural research. The funds distributed to 19 Historically Black Colleges and Universities are leveraged with matching funding from non-federal sources. These funds are used to support: training of African-American students for employment in the food and agricultural industry in the nation; research on various topics of importance to the U.S., including maximizing opportunities for the American agricultural producers to prosper by feeding and clothing the world; addressing health issues such as obesity and diabetes in minority communities;

implementing effective strategies to mitigate threats to the safety and security of food systems; and ensuring rural communities will remain competitive and prosper. The program is needed to help build capacity and reduce the disparities that exist.

(5) Sustained support for Minor Crop Pest Management (IR-4) ($11,832,000 available in 2018).

Base funding will support the capacity of the IR-4 program to assist growers in obtaining registrations of pesticides for use on specialty food crops (fruits, vegetables, nuts, and 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 develops data required to obtain the regulatory approval for safe and effective pest management tools needed by growers of specialty crops and for minor uses on major crops. The IR-4 program 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. An economic analysis of program impacts found that the combined direct and indirect benefits of the program include support for 104,650 jobs and up to $7.2 billion annual increase in the gross domestic product. In addition, the outcomes of this program are critical for ensuring trade of agricultural products and pesticides to other countries.

This program is a key component of the agency's Tactical Science portfolio, which is focused on ensuring the biosecurity of America's food and agricultural systems by protecting the integrity, reliability, and sustainability of our agricultural enterprise against a wide array of known and potential threats from pests and diseases harmful to plants, animals, and/or human health. These efforts are implemented through working partnerships with scientists in our nation's colleges and universities, other federal agencies, and the private sector.

(6) Sustained support for Research Grants at 1994 Institutions ($1,789,000 available in 2018).

The Research Grants at 1994 Institutions Program assists 1994 LGUs in building institutional research capacity through competitive funding of applied projects that address student educational needs and solve community, reservation or regional problems. Priority research for the 34 institutions are in the areas of reservation and tribal water issues, agricultural adaptation to climate change, and tribal food security issues. Collaboration with 1862 or 1890 land-grant institutions, USDA Agricultural Research Service (ARS), non-land-grant colleges of agriculture, or the McIntire-Stennis Cooperative Forestry Research Program is a requirement. These partnerships are developed to increase research activity at 1994 Institutions in order to build the human capacity necessary for establishing more advanced research programs. NIFA funds are used to support the training of Native-American students for employment in the food and agricultural industry in the nation; serve as a catalyst to promote collaboration among the land-grant universities; and support research on various topics of importance to the Unites States, including strengthening the stewardship of private lands through technology and research; and provide all Americans access to a safe, nutritious, and secure food supply.

The 1994 LGUs are essential for healthy and sustainable individuals, Indian communities and Tribal Reservations. Since establishment of the 1994 Land Grant community 24 years ago, eight additional Institutions were added and enrollment has grown by about 30 percent. In this relatively short period, with NIFA's support, these institutions have become centers and repositories for the preservation of cultural and linguistic knowledge, vibrant centers of applied discovery and problem solving, and as incubators for American Indian students to get a start on higher education, contributing their economic opportunities.

(7) An increase of $2,547,000 for Agriculture and Food Research Initiative (AFRI) ($372,453,000 available in 2018).

To support the transformative innovations needed to achieve nutritional security and to promote the U.S. agricultural economy, NIFA proposes an investment of $375 million in AFRI, America's flagship competitive grants program. This investment is critical for supporting systems-level research and extension on agricultural production, foundational and applied research, for integrated extension activities to transfer research findings to producers and consumers, and for continued development of the skilled workforce needed to spur the agricultural enterprise. By engaging the brightest minds and diverse expertise from across the country to solve critical problems faced by farmers, ranchers, foresters, processors, and consumers, AFRI directly benefits the

economic prosperity of agriculturally-based rural communities. Past AFRI investments have directly benefited agricultural producers by providing improved cultivars and developing high-value uses of agricultural products. For example, the AFRI-funded Triticeae Coordinated Agricultural Project (CAP) successfully implemented marker-assisted selection across U.S. public wheat breeding programs, resulting in the release of 90 new wheat varieties with improved disease resistance and quality traits, which constitute 15 percent of U.S. wheat acreage.

Recent discoveries, new technologies, burgeoning generation of data, increasing knowledge infrastructure, and the need for holistic approaches to complex challenges provide opportunities to promote economic prosperity in rural America while meeting the demands of a growing population and ensuring nutritional security. These opportunities lead to innovation in the America's high-tech food and agricultural economy, and play a critical role in the economic and personal well-being of people. Continued transformative innovations to ensure economic prosperity and nutritional security will require sustained public investments in the food and agricultural sciences.

To achieve the transformation of U.S. agricultural systems, NIFA proposes the AFRI program to include investments in three major complementary foci: 1) Sustainable Agricultural Systems, 2) Foundational and Applied Science, and 3) Education and Workforce Development. These foci will catalyze foundational and large systems-level research needed to spur innovation in U.S. food and agricultural science, promote economic prosperity in America's rural communities, and enhance the Nation's global preeminence food and agricultural production. Collectively, these investments in AFRI address the President's priorities as described in the OMB-OSTP memo on 'FY2019 Administration Research and Development Budget Priorities' (https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2017/m-17-30.pdf.) and contribute to actions listed in the report of the Interagency Task Force of Agriculture and Rural Prosperity (https://www.usda.gov/sites/default/files/documents/rural-prosperity-report.pdf),

NIFA proposes to invest $98.9 million of appropriated funds in the Sustainable Agricultural Systems programs to support large integrative projects that develop solutions to major agricultural system challenges. This component of AFRI will build on the advances made in research, education, and extension priority outcomes through the previous AFRI investments. This will enable NIFA's goal of advancing the convergence of agricultural sciences with engineering, data science, nutritional and food sciences, social sciences, and other disciplines, including nanotechnology, computational sciences, and advanced manufacturing, to generate new scientific discoveries, new products, new markets and, consequently, new high-skill jobs. The agency proposes to invest $244 million in the Foundational and Applied Science programs, and for support of interagency partnerships. These investments will enhance foundational, basic, and applied sciences that underpin the transdisciplinary systems-level science in the Sustainable Agricultural Systems program. Increased investments will be made in plant and animal breeding that support classical breeding efforts to improve crop and animal productivity and in emerging technologies such as gene editing, autonomous systems, and machine learning as applied to agriculture. Enhanced investments will also foster research on water for agriculture; emerging research opportunities in the microbiome of foods, food animals, plants, and soils; strategies to mitigate antimicrobial resistance; and data-driven research in agricultural science as a part of the Food and Agriculture Cyberinformatics and Tools initiative. The agency also proposes to invest $32.1 million in Education and Workforce Development programs to promote development of the workforce needed to spur innovations in the agricultural economy, enhance rural prosperity, and advance the competitiveness of U.S. agriculture. To connect rural skillsets to jobs of the future, investments will be increased in K-14 curricula development for developing technology- and data-savvy workforce.

(8) A decrease of $1,201,000 for Federal Administration ($20,202,000 available in 2018).

a. A decrease of $353,000 for Grants Management Systems ($7,777,000 available in 2018).

Base funds for Grants Management and Reporting will continue to support NIFA's investments in building a modern grants management and reporting system as part of the USDA-wide ezFedGrants system. These funds will continue to enhance the current capabilities in addition to planning and implementing functionality to enable the processing of the more complex competitive grant programs in ezFedGrants. Continuation of the base funding is crucial to build on the first ezFedGrants release NIFA implemented in FY 2017, and to support operation and maintenance of current legacy systems during the remainder of the transition to ezFedGrants.

The ezFedGrants solution provides applicants and recipients a single portal from which to view the status of multiple proposals and awards. Submission of "just in time" documentation and post-award action requests will be handled through this portal. Once fully implemented, the functionality available on the USDA grants platform will support NIFA's goals to increase transparency, simplify processes, and provide self-service functionality to applicants, recipients, and peer reviewers. ezFedGrants is being developed in partnership with USDA OCFO. Funding is provided by agencies for the unique business functionalities required by the individual agencies, and is shared across agencies per the governance model adopted by ezFedGrants for core system functionality development.

There are additional systems NIFA maintains that are critical to its mission of providing access to information on the scientific activities funded by the agency. This includes NIFA's ongoing efforts to fully support the transition to the cloud environment. In addition, NIFA's public-facing website and data reports and applications provide stakeholders and the public multiple ways to access data relating to the scientific work funded by NIFA and accomplished by grantees. The grants modernization funds are critical to the ongoing work NIFA is doing across the agency to ensure its data is accurate and easily shared. The funds also are critical to evaluate and support the business needs of the grants management and program staffs that change with the evolution of new technologies and new regulations and laws.

This change will affect funding levels for the following IT investments:
005-000000268 Grants Management and Reporting

b. A decrease of $5,920,000 for GSA Rental and DHS Security Payment ($5,920,000 available in 2018).

A decrease is proposed to move the GSA rental and DHS security payments to Other Necessary Expenses. This consolidation will result in better administration of Federal Administration costs.

c. An increase of $5,072,000 for other necessary expenses ($6,505,000 available in 2018).

The increase includes funding for GSA rental and DHS security payments. By incorporating the GSA rental and DHS security payments into the Other Necessary Expenses line, the agency will be able to redirect resources to support the rising costs associated with the current Southwest Waterfront location called the Wharf, a rapidly growing and expensive section of Washington, D.C.

NIFA's programs are managed at the national level with a staff that represents 339 permanent full-time employees and 53 other employees at the end of FY 2017. 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 5 percent of funds provided from programs may be used to support administration of the programs as established by law.

(A) A decrease of $25,357,000 to eliminate certain research programs ($25,357,000 available in 2018).

Program	FY 2018 ($000)	Decrease ($000)	FY 2019 ($000)
Capacity Building for Non Land-Grant Colleges of Agriculture	$4,966	-$4,966	0
Animal Health and Disease Research Program	3,973	-3,973	0
Supplemental and Alternative Crops	819	-819	0
Aquaculture Centers	3,973	-3,973	0
Farm Business Management	1,440	-1,440	0
Sun Grant Program	2,980	-2,980	0
Alfalfa and Forage Research Program	2,235	-2,235	0
Global Change/UV Monitoring	1,395	-1,395	0
Potato Research	2,235	-2,235	0
Aquaculture Research	1,341	-1,341	0
Total	$25,357	-$25,357	0

A decrease is proposed to direct funding to higher priority activities.

(9) Sustained support for 1890 Institution Capacity Building Grants ($19,205,000 available in 2018).

The Education Grants for 1890 Institutions Program is authorized under section 1417 (b) (4) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA). NIFA provides this service to strengthen teaching, research, and extension programs in the food and agricultural sciences by building the institutional capacities of the 19 eligible 1890 LGUs. This competitive program strengthens teaching in the food and agricultural sciences in the need areas of curriculum design and materials development, faculty development, strengthen research and extension programs in needed areas of studies and experimentation, and extension program development support systems. This program also supports integrated project grants to increase and strengthen food and agriculture sciences at the 1890s through integration of education, research and extension activities. Through this program, more African-American students are trained for employment in the food and agricultural enterprises. Research is supported on various topics of importance, including agricultural production and exports, health issues such as obesity and diabetes in minority communities, access to a safe, nutritious, and secure food supply, and the competitiveness and prosperity of rural communities.

For nearly 40 years, the Education Grants for 1890 Institutions Program has enabled the 1890 LGUs to continue to support innovation by funding applied research to serve the needs of underrepresented rural communities in their states; and the education of thousands of minority, first-generation college students they serve. This funding program is still needed because wide disparities continue to persist in educational attainment and quality of life among African Americans.

(10) A decrease of $1,465,000 for Veterinary Medical Services Act ($6,456,000 available in 2018).

Veterinary Medicine Loan Repayment Program (VMLRP), authorized by the National Veterinary Medical Services Act (NVMSA) serves rural ranchers and farmer by helping qualified veterinarians offset a significant portion of the debt incurred in pursuit of their veterinary medicine degrees in return for their service in certain high-priority veterinary shortage situations. In this program, NIFA enters into educational loan repayment agreements with veterinarians who agree to provide veterinary services in veterinarian shortage situations for a determined period of time.

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.

(11) Sustained support for Education Grants for Hispanic Serving Institutions ($9,156,000 available in 2018).

Section 1455 of National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA), reauthorized by section 7115 of the Agricultural Act of 2014, provides the Secretary of Agriculture with the authority to make competitive grants to Hispanic-Serving Institutions (HSIs) for the purpose of promoting and strengthening their ability to carry out education, applied research, and related community development programs. Grant funds may be used to support activities of HSIs to enhance educational equity for underrepresented students; to strengthen institutional educational capacities to respond to identified State, regional, national, or international educational needs; to attract and support undergraduate and graduate students beginning with mentoring of students at the high school level and continuing with the provision of financial support for students through their attainment of a doctoral degree; and to facilitate collaborative initiatives between two or more HSIs or/and between the HSIs and units of the government or the private sector.

Approximately 92 of the 435 HSIs, which serve 3 million students in rural and urban communities, have participated in this program. These projects include activities that place over 300 underrepresented students in internships with the Federal and State government and the private sector, including about 125 students at USDA. This program is not only serving underrepresented students, but also USDA agencies to recruit and retain talented students for employment.

The 2010 U.S. Census shows that the nation’s Hispanic community, already the largest minority, has the fastest-growing population in the U.S. Between 2010 and 2050, the Hispanic population is projected to grow from 49.7 million to 132.8 million, thus potentially doubling the Hispanic share of the nation's population from 16 percent to 30 percent. According to the White House Initiative on Educational Excellence for Hispanics,

despite accounting for 16 percent of the U.S. population, Hispanics earned only 8 percent of all certificates and degrees awarded in STEM fields. Hence, investment is HSI program is needed because it has the potential to address the challenge of educating the nation's needed agricultural workforce and scientists.

(12) Sustained support for Tribal Colleges Education Equity Grants Program ($3,416,000 available in 2018).

NIFA is authorized under the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note) to administer programs at 1994 Land-Grant Institutions. The Payments to the 1994 Institutions program provides funding to enhance educational opportunities for Native Americans in the food and agricultural sciences and strengthens institutional capacity to deliver relevant formal education opportunities. Priority is given to funding work that strengthens the stewardship of Tribal lands through technology and research; ensures productive and sustainable use of our Tribal forest system lands; and provides Native Americas access to a safe, nutritious, and secure food supply. In FY 2016, NIFA through this grants program served approximately 3,919 American Indian students who 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 1994 Institutions faculty and recruiting and training students for careers in Science, Technology, Engineering, and Mathematics (STEM), this program enables greater diversity in its workforce and increases the competitiveness of U.S. Agriculture.

The 1994 land-grants are critical for healthy and sustainable Indian communities and Tribal Reservations. NIFA's Education programs are needed as they build the capacity of the 1994 Land Grants so that they can serve the needs of students that often have no other opportunity to attain an advanced education.

(13) Sustained support for Education Grants for Alaska Native and Native Hawaiian-Serving Institutions ($3,172,000 available in 2018).

The Alaska Native and Native Hawaiian-Serving Institutions (ANNH) Program is administered under the provisions of Section 759 of Public Law 106-78 (7 U.S.C. 3242) which was amended and re-designated as section 1419B of the National Agricultural Research, Extension, and Teaching Policy Act (NARETPA) of 1977 (7 U.S. C. 3156). NIFA offers this program to strengthen the ability of ANNH 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 deliver enhanced 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 U.S., and maximize the development and use of resources to improve food and agricultural security.

To date, over 10,000 students have benefited from this program through increased knowledge in food and agriculture, including over 1,200 Native Hawaiian students and approximately 4,000 Asian and Pacific Islanders. Six new degree/certificate programs and over 21 new courses have been developed and offered. Similarly, the Drumbeats Alaska programs continue to strengthen their institutions to meet the needs of rural residents. For example, the University of Alaska Southeast program focused its efforts on enhancing the K-12 school system. Statewide tests of science administered in 2017 by the Alaska Department of Education and Early Development shows that two-thirds (66.9 percent) of Sitka students achieved Advanced/Proficient scores, compared to 46.46 percent statewide, suggesting the Drumbeats program is having a positive impact on the approximately 1,300 K-12 students participating each year.

The Alaska Native and Native Hawaiian-Serving Institutions have many complex challenges due to the geographical dispersion of these land-grant colleges – in Alaska and on islands in the Pacific; the unique needs of capacity building at these institutions – some small community colleges while others consist of sprawling systems; and the challenges faced by some of these communities – high food insecurity, obesity, and low education. This program is needed to help the institutions build capacity to address these challenges. There is no other agency or organization that can provide support for STEM education in food, agriculture, natural resources and human sciences as effectively and efficiently as NIFA can support in these communities. By continuing to administer this program, NIFA can help to increase Alaska Native and Native Hawaiian student

participation, enrollment and graduation in food, agricultural, natural resources, and human agricultural sciences.

(14) Sustained support for Resident Instruction and Distance Education Grants for Insular Areas Program ($1,986,000 available in 2018).

Distance Education Grants (DEG) for Insular Areas are administered under the provisions of 7 U.S.C. 3362, to strengthen the capacity of Insular Area (American Samoa, Guam, Micronesia, Marshall Islands, Northern Marianas, Palau, Puerto Rico, and Virgin Islands) institutions to carry out distance education in the food and agricultural sciences. Resident Instruction for Insular Area (RIIA) grants are administered under the Farm Security and Rural Investment Act of 2002 (Section 7501 of Public Law 107-171) as reauthorized in Section 7143 of Public Law 110-246, which amended the National Agricultural Research, Extension and Teaching Policy Act of 1977 (7 U.S.C.3101 et seq.) by providing for a program of resident instruction grants for insular areas (7 U.S.C. 3363). NIFA administers this program to promote and strengthen 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. By strengthening institutional educational capacities in instruction and curriculum, and enhancing the quality of teaching and learning, NIFA enables Insular Area Institutions to meet their unique needs, such as geographical dispersion of these land-grant colleges – in the Pacific and in the Atlantic oceans. The FY 2016 grants are expected to benefit approximately 9,366 Insular Area students through assistantships, internships, new curriculum, lab facilities and other classroom improvements supported through this program. The Insular Area program provides access to STEM education for a broad spectrum of students, especially to first generation college students and those who have limited opportunities.

As a result of this program, in 2015, the University of Puerto Rico-Mayaguez offered 11 new and enhanced Food, Agriculture, Natural Resource, and Human Sciences courses impacting a total of 184 students from 7 institutions. RIIA has provided experiential learning in agriculture that would otherwise be unavailable to students at the University of the Virgin Islands (UVI) where there is no agriculture curriculum. During Fall 2014 and Spring 2015 semesters, the Agricultural Experiment Station (AES) at UVI had 13 students conducting research in 3 different AES labs in Animal Science, Aquaculture, and Biotechnology. Continued funding for Insular Areas is needed to build capacity in program administration at area institutions, strengthening their ability to provide scientific training opportunities for students and subsequent employment preparedness in food, nutrition, agriculture, natural and renewable resources, and human sciences.

(15) An increase of $58,000 for Tribal Colleges Endowment Fund ($11,799,000 available in 2018).

The Native American Institutions Endowment Fund, authorized by the 1994 Act provides for the establishment of an endowment for the 1994 Institutions (eligible Tribally-controlled colleges). Base funding for this program enhances educational opportunities for Native Americans by building educational capacity at these institutions. The institutions also may use the funding for facility renovation and contraction. The $11.86 million will remain at Treasury and be invested in Treasury securities, with the cumulative interest provided to the program.

(B) A decrease of $12,316,000 to eliminate certain education programs ($12,316,000 available in 2018).

Program	FY 2018 ($000)	Decrease ($000)	FY 2019 ($000)
Multicultural Scholars, Graduate Fellowship and Institution Challenge Grants	$8,939	-$8,939	0
Secondary and 2-year Post-Secondary Education	894	-894	0
Veterinary Services Grant Program	2,483	-2,483	0
Total	$12,316	-$12,316	0

A decrease is proposed to direct funding to higher priority activities.

SMALL BUSINESS INNOVATION RESEARCH PROGRAM

The Small Business Innovation Research Act (SBIR), codified at §9 of the Small Business Act, 15 U.S.C. at §638 was designed to strengthen the role of small, innovative firms in federally funded research and development. Under this program, small firms receive at least 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, reauthorized the SBIR program through September 30, 2022, mandates that 3.2 percent of FY 2017, and 3.2 percent of FY 2018, and 3.2 percent of FY 2019 for extramural research and development funds within the Department are set-aside and used to fund the SBIR program.

Agency	FY 2017 Actual	FY 2018 Estimate*	FY 2019 Estimate*
Agricultural Research Service	$1,668,485	$1,600,000	$1,600,000
Animal and Plant Health Inspection Service	27,596	27,000	27,000
National Institute of Food and Agriculture	23,851,318	22,600,000	21,546,000
Economic Research Service.....	92,960	92,000	92,000
Forest Service	633,699	630,000	630,000
National Agricultural Statistics Service	31,076	31,000	31,000
Total	$26,305,134	$24,980,000	$23,926,000

*Estimates are provided for 2018 and 2019. A report to the Small Business Administration for planned investments in 2018 and 2019 will be updated based on final appropriations.

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. Ten research topic areas have been established:

1. Forests and Related Resources. Research proposals are solicited to enhance the protection of the Nation's forested lands and forest resources and help to ensure the continued existence of healthy and productive forest ecosystems.

2. Plant Production and Protection – Biology. Research proposals are solicited that employ biological 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.

10. Plant Production and Protection – Engineering. The objective of this topic area is to enhance crop production by creating and commercializing technologies that enhance system efficiency and profitability and that protect crops from pests and pathogens in economically and environmentally sound ways. Projects that promote energy conservation or efficiency are strongly encouraged.

TABLE 1 - FISCAL YEAR 2017
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	TOTAL FEDERAL FUNDS
ALABAMA	$ 3,867,629	$ 1,187,260	$ 5,054,889	$ 1,047,765	$ 5,376,440	$ 49,145	$ 582,496	$ 3,062,552	$ 3,415,244	$ 18,588,531
ALASKA	1,062,726	193,340	1,256,066	576,923	-	-	-	398,163	1,416,660	3,647,812
AMER SAMOA	1,276,512	29,350	1,305,862	44,665	-	-	-	-	312,591	1,663,118
ARIZONA	1,498,479	1,022,277	2,520,756	372,208	-	57,535	279,954	9,696,981	202,294	13,129,728
ARKANSAS	3,291,889	983,554	4,275,443	945,408	2,325,815	83,269	149,016	144,085	1,486,949	9,409,985
CALIFORNIA	4,629,528	2,193,884	6,823,412	843,051	-	262,453	4,184,187	19,354,692	2,938,629	34,406,424
COLORADO	2,108,723	1,538,864	3,647,587	372,208	-	276,128	1,578,873	10,134,704	-	16,009,500
CONNECTICUT	1,581,868	667,449	2,249,317	433,623	-	20,312	-	2,906,055	25,000	5,634,307
DELAWARE	1,128,811	499,282	1,628,093	228,909	1,246,578	17,943	-	2,056,153	889,939	6,067,615
DISTRICT OF COLUMBIA	750,667	144,146	894,813	-	-	-	-	1,850,197	-	2,745,010
FLORIDA	2,974,758	892,132	3,866,890	863,522	2,158,487	63,899	2,620,413	22,319,765	2,109,099	34,002,075
GEORGIA	4,393,990	1,718,788	6,112,778	1,129,651	3,086,955	88,087	6,158,733	5,104,110	24,694	21,705,008
GUAM	1,315,132	165,547	1,480,679	106,080	-	-	-	-	313,403	1,900,162
HAWAII	1,112,372	518,387	1,630,759	290,322	-	9,881	743,424	144,775	1,919,131	4,738,292
IDAHO	1,916,907	805,979	2,722,886	617,865	-	55,404	228,647	5,968,971	333,771	9,927,544
ILLINOIS	5,428,118	1,426,717	6,854,835	535,980	-	40,394	250,000	7,952,467	200,000	15,833,676
INDIANA	5,187,307	1,160,295	6,347,602	597,394	-	51,531	250,000	8,834,675	50,000	16,131,202
IOWA	5,384,485	2,171,036	7,555,521	515,508	-	226,970	743,424	14,897,801	1,652,103	25,591,327
KANSAS	3,291,212	1,066,743	4,357,955	310,795	-	142,621	325,500	9,058,705	415,545	14,611,121
KENTUCKY	5,153,286	1,393,833	6,547,119	740,693	3,684,688	67,664	447,146	1,483,660	2,456,623	15,427,593
LOUISIANA	2,973,797	928,383	3,902,180	1,006,822	2,045,413	53,661	-	2,711,116	829,579	10,548,771
MAINE	1,686,157	695,653	2,381,810	883,994	-	25,199	388,000	1,321,691	144,330	5,145,024
MARYLAND	2,207,568	875,308	3,082,876	413,151	1,561,862	16,458	3,217,535	5,274,274	1,339,912	14,906,068
MASSACHUSETTS	1,850,755	854,422	2,705,177	454,094	-	65,246	-	3,703,828	-	6,928,345
MICHIGAN	5,208,296	1,246,729	6,455,025	965,879	-	99,070	2,814,523	13,294,115	780,441	24,409,053
MICRONESIA	1,351,595	-	1,351,595	-	-	-	-	-	-	1,351,595
MINNESOTA	5,099,678	1,217,544	6,317,222	822,579	-	155,963	6,440,482	4,703,048	202,294	18,641,588
MISSISSIPPI	3,764,527	1,134,867	4,899,394	1,068,236	2,538,454	60,402	743,424	4,564,035	493,807	14,367,752
MISSOURI	5,050,095	1,087,692	6,137,787	699,751	3,708,909	73,406	576,743	5,989,154	942,133	18,127,883
MONTANA	1,849,824	902,647	2,752,471	679,280	-	40,824	620,000	1,921,422	708,029	6,722,026
NEBRASKA	3,041,040	1,244,298	4,285,338	228,909	-	127,148	509,401	8,800,616	341,900	14,293,312
NEVADA	1,057,862	494,221	1,552,083	126,551	-	20,339	-	3,178,288	-	4,877,261
NEW HAMPSHIRE	1,359,627	500,325	1,859,952	495,037	-	15,395	-	1,126,511	-	3,496,895
NEW JERSEY	1,844,195	1,492,282	3,336,477	372,208	-	23,878	3,729,681	2,487,592	-	9,949,836

TABLE 1 - FISCAL YEAR 2017
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	TOTAL FEDERAL FUNDS
NEW MEXICO	1,529,135	543,762	2,072,897	269,851	-	46,413	60,000	749,900	1,154,588	4,353,649
NEW YORK	4,828,358	2,109,308	6,937,666	883,994	-	97,561	749,216	11,217,801	410,101	20,296,339
NORTH CAROLINA	6,349,321	1,624,307	7,973,628	1,088,707	4,239,843	112,395	-	11,107,898	387,909	24,910,380
NORTH DAKOTA	2,157,444	819,608	2,977,052	167,494	-	45,216	-	1,088,829	630,735	4,909,326
NORTHERN MARIANAS	1,267,593	-	1,267,593	-	-	-	-	-	124,827	1,392,420
OHIO	6,265,283	1,319,470	7,584,753	638,336	1,114,115	78,697	594,580	8,982,702	1,189,972	20,183,155
OKLAHOMA	3,259,312	807,016	4,066,328	597,394	2,422,115	74,365	152,509	4,814,389	2,137,308	14,264,408
OREGON	2,493,560	1,278,449	3,772,009	1,109,180	-	59,612	-	3,656,925	79,500	8,677,226
PALAU	-	-	-	-	-	-	-	-	-	-
PENNSYLVANIA	5,938,975	1,685,912	7,624,887	761,166	-	111,721	-	10,968,491	402,104	19,868,369
PUERTO RICO	3,796,723	999,313	4,796,036	85,609	-	9,976	-	152,000	1,987,382	7,031,003
RHODE ISLAND	1,022,592	518,081	1,540,673	147,023	-	17,228	-	756,240	-	2,461,164
SOUTH CAROLINA	3,307,757	1,055,311	4,363,068	863,522	2,284,797	18,315	-	1,689,414	132,781	9,351,897
SOUTH DAKOTA	2,313,480	826,589	3,140,069	208,437	-	72,881	2,787,840	5,599,833	303,441	12,112,501
TENNESSEE	4,880,663	1,149,054	6,029,717	781,637	3,403,914	69,048	583,061	5,301,732	1,034,462	17,203,571
TEXAS	6,985,433	1,634,525	8,619,958	924,937	5,157,332	287,135	897,960	12,349,397	6,296,186	34,532,905
UTAH	1,331,107	996,646	2,327,753	187,965	-	24,398	5,979,759	2,528,742	-	11,048,617
VERMONT	1,411,170	438,699	1,849,869	474,565	-	18,497	5,908,733	2,275,818	144,000	10,671,482
VIRGIN ISLANDS	1,291,126	160,774	1,451,900	44,665	-	-	-	-	458,197	1,954,762
VIRGINIA	4,153,391	1,061,328	5,214,719	965,879	2,885,301	36,741	-	7,853,709	1,485,795	18,442,144
WASHINGTON	2,725,101	1,881,357	4,606,458	1,027,294	-	108,772	2,200,406	7,071,677	240,602	15,255,209
WEST VIRGINIA	2,548,889	729,074	3,277,963	658,809	1,538,990	12,251	-	861,528	894,348	7,243,889
WISCONSIN	5,152,883	1,308,901	6,461,784	822,579	-	74,744	769,195	9,952,329	439,209	18,519,840
WYOMING	1,275,410	720,183	1,995,593	351,737	-	30,069	-	148,711	123,426	2,649,536
OTHER	-	-	-	-	-	-	22,527	31,846,000	235,036	32,103,563
SBIR	5,537,979	1,806,879	7,344,858	1,022,525	1,681,902	163,686	1,504,641	9,006,000	192,061	20,915,673
BIOTECH RISK ASSESSMENT	720,890	227,650	948,540	38,180	97,540	20,860	35,421	2,045,580	3,620	3,189,741
FEDERAL ADMIN	5,548,596	1,753,984	7,302,580	1,050,454	1,625,550	119,194	2,636,295	18,750,000	2,401,900	33,885,973
FEDERAL ADMIN - DIRECT	-	-	-	-	-	-	-	-	-	20,201,000
SUBTOTAL	183,791,586	59,909,414	243,701,000	33,961,000	54,185,000	4,000,000	62,463,745	355,219,846	48,833,590	822,565,181
UNOBLIG BAL	-	-	-	-	-	-	-	491,245,955	1,305,839	492,551,794
SUBTOTAL	183,791,586	59,909,414	243,701,000	33,961,000	54,185,000	4,000,000	62,463,745	846,465,801	50,139,429	1,315,116,975
TRIBAL ENDOWMENT		-	-	-	-	-	-	-	-	11,880,000
TOTAL	**183,791,586**	**59,909,414**	**243,701,000**	**33,961,000**	**54,185,000**	**4,000,000**	**62,463,745**	**846,465,801**	**50,139,429**	**1,326,996,975**

TABLE 2 - FISCAL YEAR 2018
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH

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	$7,025,000	$1,013,000	$1,615,000	$159,000	$2,572,000	$18,623,000	$2,380,000	$20,202,000	$53,589,000
UNDISTRIBUTED BALANCE	235,020,000	32,718,000	52,202,000	3,814,000	70,047,000	842,730,000	50,842,000	-	1,287,373,000
TOTAL OBLIGATIONS	242,045,000	33,731,000	53,817,000	3,973,000	72,619,000	861,353,000	53,222,000	20,202,000	1,340,962,000

TABLE 3 - FISCAL YEAR 2019
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH

STATE	HATCH ACT	COOP FORESTRY RSH (MS)	1890 UNIV & TUSK UNIV (EA)	SPECIAL AND OTHER GRANTS	COMPETITIVE RESEARCH GRANTS	HIGHER EDUCATION GRANTS	FED ADMIN DIRECT APPROP	TOTAL FEDERAL FUNDS
FEDERAL ADMIN	$7,061,529	$866,000	$1,615,000	$1,504,000	$18,750,000	$1,840,000	$19,001,000	$50,637,529
UNDISTRIBUTED BALANCE	236,176,471	28,001,000	52,202,000	36,109,000	356,250,000	40,086,000	-	748,824,471
TOTAL OBLIGATIONS	243,238,000	28,867,000	53,817,000	37,613,000	375,000,000	41,926,000	19,001,000	799,462,000

RESEARCH AND EDUCATION ACTIVITIES

Classification by Objects
(Dollars in thousands)

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Personnel Compensation:				
Washington D.C.	$20,760	$23,346	$25,688	$23,119
11.1 - Full-time employees	20,760	23,346	25,688	23,119
12.0 - Personnel Benefits	7,488	8,421	9,266	8,339
Total, personnel comp. and benefits	28,248	31,767	34,953	31,458
Other Objects:				
21.0 - Travel & Transportation of Persons	1,026	1,154	1,881	1,599
22.0 - Transportation of Things	-	4	-	-
23.1 - Rent to GSA	5,253	5,626	5,503	6,904
23.3 - Comm., Util., Misc. Charges	2,273	2,556	4,167	3,542
24.0 - Printing and Reproduction	119	134	218	185
25.1 - Advisory and Assistance Services	1,773	1,994	3,250	2,763
25.2 - Other Services from non-Federal sources	255	287	467	397
25.3 - Purchases of Goods and Services	1,186	1,334	2,174	2,065
25.5 - Research & Development Contracts	5,864	6,594	10,750	10,213
26.0 - Supplies and Materials	193	217	354	301
31.0 - Equipment	112	122	205	174
41.0 - Grants, Subsidies & Contributions	685,148	770,776	1,277,040	739,862
Total, Other Objects	703,202	790,798	1,306,009	768,004
99.9 Total, new obligations	731,450	822,565	1,340,962	799,462
DHS Building Security Payments (included in 25.3)	$714	$742	$1,064	$1,358
Position Data:				
Average Salary (dollars), ES positions	192,350	188,071	191,644	193,503
Average Salary (dollars), GS positions	102,600	110,872	112,979	114,074
Average Grade, GS positions	11.9	12.1	12.1	12.1

BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE

Classification by Objects
(Dollars in thousands)

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Other Objects:				
21.0 - Travel & Transportation of Persons	$97	-	$144	-
22.0 - Transportation of Things	1	-	1	-
25.2 - Other Services from non-Federal sources	22	-	33	-
25.4 - Oper & Maintenance of Facilities	114	-	170	-
41.0 - Grants, Subsidies & Contributions	7,321	$403	8,308	-
99.9 - Total, new obligations	7,555	403	8,656	-

Status of Programs

RESEARCH AND EDUCATION ACTIVITIES:

Current Activities:

- 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.

- 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.

- 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. Section 7129 of Public Law 113-79 makes Central 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, West Virginia State University, and Central 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.

- 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.

- 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 and research, sustainable agriculture, potato, alfalfa forage and research, and supplemental and alternative crops.

- 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).

- 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, 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, weather, 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.

- Biotechnology Risk Assessment Research Grants Program (BRAG). BRAG is a competitive program for research grants to identify and develop appropriate management practices to minimize physical and biological risks associated with genetically engineered animals, plants, and microorganisms.

- 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.

- 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.

- 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.

- 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.

- 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. Institution challenge grants 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. Under multicultural scholars grants, 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 1890 Institution Capacity Building Grants Program advances the teaching and research capacity, and expands 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 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 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 (VMLRP) 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. The Veterinary Services Grant Program is a competitive program for developing, implementing, and sustaining veterinary services. The program supports activities that substantially relieve veterinarian shortage situations, facilitate private veterinary practices engaged in public health activities, or support the practices of veterinarians who are providing or have completed providing services under an agreement under the Veterinary Medicine Loan Repayment Program.

Selected Examples of Recent Progress:

- Hatch Act. The Asian tiger mosquito (*Aedes albopictus*) thrives in the U.S. and is an expert at taking advantage of human-altered environments by using any small pocket of water that collects in objects around homes. This container breeding species may be a vector for viruses including dengue, chikungunya, Zika, and West Nile. University of Maryland and Columbia University (New York) researchers looked at how socioeconomic, ecological, and climatic factors interact to drive populations of the Asian tiger mosquito into urban environments studying neighborhoods of varying socio-economic status in West Baltimore, Maryland. Their aim was to determine which factors are present in city blocks with large mosquito populations. The researchers found that the three most important variables for mosquito hotspots were precipitation, number of abandoned buildings, and vegetation. Socio-economic status plays a big role at these scales. For example, cleaning up trash to remove pockets of water may have a greater impact in lower socio-economic status neighborhoods, while reducing supplemental watering of lawns and water holding containers like recycle bins may make the difference for more affluent neighborhoods, allowing targeted education and marketing programs to have a greater effect across the entire city.

- McIntire-Stennis Cooperative Forestry Research. The Hemlock Wooly Adelgid (HWA), an invasive species present in 17 States from southern Maine to Georgia, is one of several invasive species including the Asian

longhorn beetle and the emerald ash borer that attack the interior of the tree disrupting water and nutrient supplies to the needles. The University of Georgia is working to conserve and restore the eastern and Carolina hemlocks by providing a route for mass propagation of trees with resistance or tolerance to HWA using improved somatic seedling and embryo production technology. Through this research, over 300 seedlings were transferred to North Carolina State University to be grown and screened for resistance to the HWA.

- Evans-Allen. African-Americans in Mississippi have high incidences of cancer. Cancer incidence rates are measures of the risk of being diagnosed with cancer among the state's general population, according to the Mississippi State Department of Health report, "Burden of Cancer – Mississippi". The report states that among males, African Americans have the highest incidence rates and mortality rates. High dosages of vitamin C has been used to treat cancer patients for the past four decades, and research has proven that the nutrient actually slows the growth of prostate, pancreatic, liver, and colon cancers. Mississippi's farmers can help fight the war against cancer by producing blueberries that are high in vitamin C. At Alcorn State University in Mississippi, a research scientist conducted experiments to increase vitamin C content in organic blueberries. Local small farmers received blueberry plants at no cost as incentives to produce the valuable fruit. Blueberries produced on worm castings at the university have 83 percent higher vitamin C content when compared to blueberries sold on the open market. The success of the research was recognized by the International Society for Horticulture Sciences.

- Special Grants. Minor Crop Pest Management – IR-4. The IR-4 program at Rutgers University (New Jersey) facilitates regulatory clearance and registration of needed pest management technologies for specialty crop farmers and growers. In 2016, IR-4 data from over 50 residue studies were submitted to Environmental Protection Agency (EPA) and based on EPA's approval, 1000 new uses can be registered to help farmers manage destructive pests. This success ranked 2016 as one of the most productive years in IR-4 history. One recent success is the 2016 EPA registration of Orkestra Intrinsic Fungicide which manages many leaf and soil diseases on ornamental crops. Another example is IR-4's effort to support EPA approval of a bio-pesticide, LifeGard™ by Certis USA to manage diseases on sugar beets, cantaloupe and pecans.

  Sustainable Agriculture Research and Education (SARE). The SARE program has continued its long standing efforts to increase use of cover crops. This practice can help farmers boost yield, manage weeds, improve soil quality, protect water quality, and sequester atmospheric carbon. In FY 2017 the SARE program completed its fifth and final year of a collaborative effort with the Conservation Technology Information Center at Purdue University (Indiana), to understand the nationwide use and impacts of cover crop production. The 2017 survey of over 2000 farmers indicated that on average, cover crop usage increased corn yields by 1.3 percent, soybean yields by 3.8 percent, and wheat yields by 2.8 percent.

- AFRI. Two million U.S. military veterans are younger than 35, with nearly 45 percent of them coming from rural America. Most have expressed interest in returning to their communities, and census data indicates that the Southern region is home to the largest concentration of veterans. The University of Arkansas led a team of experts from University of Missouri, Appalachian State University (North Carolina), University of Arkansas at Pine Bluff, and the Farmer Veteran Coalition (California) is developing targeted mentoring programs for beginning farmers and ranchers that emphasize business practices, such as a "veteran grown" label program, to create marketing opportunities. In 2016, 30 participants went to veteran-owned Across the Creek Farm in Arkansas and learned production operations, including business planning and financial decisions that impact the farm. The grant pays for vets' attendance at workshops, boot camps, and online courses.

  An epidemic of wheat blast, a crop disease caused by the fungus *Magnaporthe oryzae triticum* (MoT), struck Bangladesh in spring 2016. Wheat blast can result in 30 to 100 percent crop loss. To limit such food security calamities in the U.S., researchers from Kansas State University, the University of Kentucky, and USDA's Agricultural Research Service (ARS) joined forces to create a sensitive new assay method to detect the fungus. The researchers devised a method to hone in on a specific region of the fungus' genome that distinguishes it from look-alike strains. In tests, it accurately distinguished all known strains of MoT from more than 280 specimens of *M. oryzae* collected around the world. The method yields results in less than 24 hours and is sensitive enough to detect even trace amounts.

A five-year Dairy Coordinated Agricultural Project is putting the U.S. dairy industry on target to reduce its green-house gas (GHG) emissions by 25 percent by 2020. The University of Wisconsin is leading a team of 50 researchers who are examining all facets of dairy production to meet the goal by considering feed efficiency and feed production, manure processing and energy use, economic aspects of manure handling, nutrient use, water use, and soil quality. The researchers are developing computer models to identify where farm emissions are the greatest. By integrating process models with climate models, scientists will be able to recommend new management practices to reduce GHG emissions.

Mercury is very toxic and can cause long-term health damage, but removing it from water is challenging. Researchers at the University of Minnesota created a sponge that uses nanotechnology to absorb mercury from polluted water in seconds. Their breakthrough was to permeate a sponge with the natural element selenium. When the sponge is soaked in contaminated water, the mercury binds with the selenium, and the water is essentially purified. The sponge can be used on tap water, industrial wastewater, and in lakes. It converts contaminants into nontoxic waste that can be disposed in a landfill. The sponge also kills bacterial and fungal microbes. The next step is to adapt the technology to the real world from the laboratory.

- SBIR. Nutrient Recovery and Upcycling LLC is a start-up company formed by brushite inventors from the University of Wisconsin. Brushite is a calcium phosphate compound produced by a new phosphorus-reduction technology that transforms phosphorus at wastewater treatment plants. In 2017, the technology is being installed in two more pilot systems, leading up to the first sales of the startup. Phosphorus in surface-waters plays a major role in algae blooms. Removing phosphorus during wastewater treatment makes pipes less prone to clogging, called struvite plugging. Struvite plugging costs treatment plants for mid-size cities like Madison about $250,000 annually. The process to make brushite also allows wastewater plant operators to recycle the biosolids left over from sewage treatment easier because they contain less phosphorous. This provides farmers with a better balance between the nitrogen and phosphorus in the applied biosolids to fertilize crops, and allows them to use more biosolids per acre.

- Tribal Colleges Research Grants Program. Nueta Hidatsa Sahnish College in North Dakota studied the prevalence of native pollinators on the Northern Great Plains which are the preferred pollinators for important indigenous plants such as the Juneberry or Saskatoon berries. During 2017, seven undergraduate students gained important field experience learning to safely trap, study, and identify the pollinators under guidance from the South Dakota State University. The information they collected expanded and updated a database on these important insects. In addition, the project contributed a summer ecology class for students and pollinator food plots were planted at five sites, including the college's land laboratory.

- Higher Education Programs. 1890 Institutions Capacity Building Grants Program. Langston University (Oklahoma) is working to enhance the relevance of understanding food sciences to address health and nutrition, and minimize childhood obesity in urban settings. Seventy-seven educators received professional development training through the Summer Teacher Institutes, and are utilizing the resource materials from other programs to educate their students on Ag-Education, nutrition, health, wellness and fitness. School-based agriculture and nutrition education was also provided during the project period by teacher participants and through site visits by the project coordinator to the local partnering schools. A total of 2,288 students were served through educational enrichment school-based classroom activities lead by participating teachers. Two additional events included 2,085 students participating in the "Live + Learn Health and Wellness" Youth Symposiums where middle school students participated in hands-on educational workshops relating to college life, health and wellness, and valuable experiences available on college campus. The National "Food Day" educational events reached over 1,600 community members, public/charter school students and college students, parents, teachers, and community partners.

  Hispanic Serving Institutions Education. Climate variability presents real threats to U.S. agricultural production, forest resources, and rural economies. These threats have significant implications, not just for farmers, ranchers, and forest landowners, but for all Americans. The University of New Mexico-Taos (UNM-Taos) is cultivating the next generation of climate variability researchers. The UNM-Taos created the Northern New Mexico Climate Change Corps (CCC) to educate students to respond to climate-related challenges. UNM-Taos collaborated with New Mexico Highlands University (NMHU) to help students start their education in Taos and transfer to NMHU to complete a bachelor's degree in forestry, geology, or biology. As of the third year of the project, 20 students

have enrolled in CCC. The program also offers paid summer internships as research assistants to scientists in Federal agencies or to graduate students at NMHU doing thesis research related to climate change.

Tribal Colleges Education Equity Grants Program. Bay Mills Community College in Michigan focused on retention, recruitment, and agricultural education by developing agricultural experiential learning programs at their Waishkey Bay Farm. The farm showcases humane and sustainable agricultural practices by hosting training for regional producers, educators, and students. Recent progress includes an annual series of sustainable agriculture educational workshops on topics such as pasture poultry, which drew over 200 local producers. Also a workshop hosted over 70 producers with the local office of the USDA's Natural Resources Conservation Service. The Farm provides youth and school groups with opportunities for hands-on learning through farm field trips, science camp, and experience participating in science and technology research projects. The project also developed a recruitment and retention strategy, including participating in college fairs, meeting with regional guidance counselors, and developing the student Early Alert Referral System (EARS) to refer students to needed services early such as tutoring, academic advising, and time management education. The Bay Mills Indian Community has embraced Waishkey Bay Farm as a community resource for farming knowledge as well a fun place for active, hands-on learning for children.

Alaska Native-Serving and Native Hawaiian-Serving Institutions. The University of Hawaii's Agribusiness Education, Training and Incubation (AETI) project is helping develop the local agricultural and food production workforce through education, training, and more productive agribusiness. As a result of this project, 324 students of AETI-supported programs found employment, more than 80 new agribusinesses were launched, and existing businesses reported an average profit increase of 290 percent.

Grants for Insular Areas. Funding for distance education has made the transformation of traditional classroom courses to distance education and hybrid courses possible, allowing 4-year and 2-year schools across the Caribbean and the Pacific to leverage their resources. Progress at the University of the Virgin Islands includes improvements to the technological infrastructure allowing the delivery of online and hybrid courses, and the implementation of the 2017 Strategic Plan, "Pathways to Greatness." Through their project, the University established "The Center for Excellence in Teaching and Learning," launching the "Teaching Online" structured online certification course for faculty. Participants leveraged their certification to develop governing policies for online courses, which laid the groundwork for the delivery of the university's first Ph.D. program in a low residency, hybrid format. They also received accreditation for several online degree programs as the delivery and infrastructure continues to improve, opening new doors for students and faculty.

VMLRP. In FY 2017, the VMLRP program announced $4.2 million available to repay educational loans for eligible veterinarians in return for serving in one of the 176 areas of the U.S. lacking sufficient veterinary resources. Studies indicate significant and growing shortages of food supply veterinarians, with a leading cause of the shortage being the heavy cost of training. To help relieve the financial burden and retain rural veterinarians in areas where they can help assure agricultural biosecurity, animal health, food safety and public health, this program incentivizes students who commit to three years of veterinary service is a designated veterinary shortage area. During their service, veterinarians are able to establish themselves in rural areas, where it is more difficult to be successful. In 2016, there were 187 applicants to the program, with 49 receiving awards in 27 States. In addition, for those awardees who finished their award obligations in 2016, 33 of 40 (82.5 percent) of respondents indicated that they intended to continue providing service in their respective shortage area.

Appropriation Language

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, [$474,150,000]$450,185,000: *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.

Lead-Off Tabular Statement
Extension Activities

Budget Estimate, 2019	$450,185,000
2018 Annualized Continuing Resolution	474,150,000
Change in Appropriation	-23,965,000

EXTENSION ACTIVITIES
Project Statement
Adjusted Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionay Appropriations:										
Smith-Lever Sections 3(b) and 3(c)	$300,000	-	$300,000	-	$297,964	-	$1,466 (1)	-	$299,430	-
Smith-Lever, Section 3d Programs:										
Farm Safety/Youth Farm Safety	4,610	-	4,610	-	4,579	-	-4,579 (C)	-	-	
New Technologies for Ag Extension	1,550	-	1,550	-	1,539	-	-1,539 (C)	-	-	
Expanded Food & Nutrition Education Program	67,934	-	67,934	-	67,473	-	-12,373 (2)	-	55,100	
Federally Recognized Tribes Extension	3,039	-	3,039	-	3,018	-	- (3)	-	3,018	
Children, Youth, and Families at Risk	8,395	-	8,395	-	8,338	-	- (4)	-	8,338	
Total Section 3d Programs	85,528	-	85,528	-	84,947	-	-18,491	-	66,456	-
Rural Health and Safety Education	1,500	-	3,000	-	2,980	-	-2,980 (C)	-	-	-
Renewable Resources Extension Act (RREA)	4,060	-	4,060	-	4,032	-	-4,032 (C)	-	-	-
Women and Minorities in STEM Fields	400	-	400	-	397	-	-397 (C)	-	-	-
1890 Colleges, Tuskegee Univ. & WV State Univ	45,620	-	45,620	-	45,310	-	- (5)	-	45,310	-
1890 Facilities Grants (Sec. 1447)	19,730	-	19,730	-	19,596	-	- (6)	-	19,596	-
Food Safety Outreach Program	5,000	-	5,000	-	4,966	-	- (7)	-	4,966	-
Extension Services at the 1994 Institutions	4,446	-	4,446	-	4,416	-	- (8)	-	4,416	-
Food Animal Residue Avoidance Database	1,250	-	1,250	-	1,242	-	- (9)	-	1,242	-
Federal Administration (Direct Approp.)										-
General Administration	7,805	-	7,805	-	7,752	-	+469 (10a)	-	8,221	
Ag in the Classroom	552	-	552	-	548	-	- (10b)	-	548	
Total Federal Administration	8,357	-	8,357	-	8,300	-	+469	-	8,769	-
Subtotal Discretionary Appropriations	475,891	-	477,391	-	474,150	-	-23,965	-	450,185	-
General Provision - Enhanced Agricultural Opportunities for Military Veterans	-	-	5,000	-	4,966	-	-4,966	-	-	-
Total Discretionary Appropriations	475,891	-	482,391	-	479,116	-	-28,931	-	450,185	-
Mandatory Appropriations:										
Food Insecurity Nutrition Incentive Program	18,640	-	18,620	-	23,350	-	-23,350	-	-	-
Risk Management Education Program	4,660	-	4,655	-	4,670	-	+330	-	5,000	-
Beginning Farmers and Ranchers	18,640	-	18,620	-	18,680	-	-18,680	-	-	-
Total Mandatory Appropriations	41,940		41,895		46,700		-41,700		5,000	
Total Adjusted Appropriation	517,831	-	524,286	-	525,816	-	-70,631	-	455,185	-
Rescissions, Transfers, and Seq. (Net)	3,060	-	3,105	-	3,300	-	-3,300	-	-	-
Total Appropriation	520,891	-	527,391	-	529,116	-	-73,931	-	455,185	-
Transfers In:										
Congressional Relations	48	-	42	-	-	-	-	-	-	-
Total	48	-	42	-	-	-	-	-	-	-
Sequestration	-3,060	-	-3,105	-	-3,300	-	+3,300	-	-	-
Balance Available, SOY	32,837	-	15,796	-	39,422	-	-39,422	-	-	-
Recoveries, Other (Net)	7,366	-	1,218	-	-	-	-	-	-	-
Total Available	558,082	-	541,342	-	565,238	-	-110,053	-	455,185	-
Lapsing Balances	-120	-	-	-	-	-	-	-	-	-
Balance Available, EOY	-15,796	-	-39,422	-	-	-	-	-	-	-
Total Obligations	542,166	143	501,920	137	565,238	141	-110,053	-8	455,185	133

EXTENSION ACTIVITIES
Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Smith-Lever Sections 3(b) and 3(c)	$299,976	-	$300,000	-	$297,964	-	$1,466	-	$299,430	-
Smith-Lever, Section 3d Programs:										
Farm Safety/Youth Farm Safety	4,610	-	4,610	-	4,579	-	-4,579	-	-	-
New Technologies for Ag Extension	1,550	-	1,550	-	1,539	-	-1,539	-	-	-
Expanded Food & Nutrition Education Program	67,934	-	67,934	-	67,473	-	-12,373	-	55,100	-
Federally Recognized Tribes Extension	3,039	-	3,039	-	3,018	-	-	-	3,018	-
Children, Youth, and Families at Risk	8,395	-	8,395	-	8,338	-	-	-	8,338	-
Total Section 3d Programs	85,528	-	85,528	-	84,947	-	-18,491	-	66,456	-
Rural Health and Safety Education	1,500	-	3,000	-	2,980	-	-2,980	-	-	-
Renewable Resources Extension Act (RREA)	4,060	-	4,060	-	4,032	-	-4,032	-	-	-
Women and Minorities in STEM Fields	400	-	400	-	397	-	-397	-	-	-
1890 Colleges, Tuskegee Univ. & WV State Univ	45,620	-	45,620	-	45,310	-	-	-	45,310	-
1890 Facilities Grants (Sec. 1447)	43,206	-	2,452	-	52,781	-	-33,185	-	19,596	-
Food Safety Outreach Program	5,000	-	5,000	-	4,966	-	-	-	4,966	-
Extension Services at the 1994 Institutions	4,446	-	4,446	-	4,416	-	-	-	4,416	-
Food Animal Residue Avoidance Database	1,250	-	1,250	-	1,242	-	-	-	1,242	-
Federal Administration (Direct Approp.)										
General Administration	7,757	-	7,847	-	7,752	-	+469	-	8,221	-
Ag in the Classroom	552	-	552	-	548	-	-	-	548	-
Total Federal Administration	8,309	-	8,399	-	8,300	-	+469	-	8,769	-
Subtotal Discretionary Obligations	499,295	-	460,155	-	507,335	-	-57,150	-	450,185	-
General Provision - Enhanced Agricultural Opportunities for Military Veterans	-	-	-	-	9,966	-	-9,966	-	-	-
Total Discretionary Obligations	499,295		460,155		517,301		-67,116		450,185	
Mandatory Obligations:										
Food Insecurity Nutrition Incentive Program	18,640	-	18,620	-	23,350	-	-23,350	-	-	-
Risk Management Education Program	4,659	-	4,841	-	4,670	-	+330	-	5,000	-
Beginning Farmers and Ranchers	19,572	-	18,304	-	19,917	-	-19,917	-	-	-
Total Mandatory Obligations	42,871	-	41,765	-	47,937	-	-42,937	-	5,000	-
Total Obligations	542,166		501,920		565,238		-110,053		455,185	
Lapsing Balances	120	-	-	-	-	-	-	-	-	
Balance Available, EOY	15,796	-	39,422	-		-	-	-	-	
Total Available	558,082	-	541,342	-	565,238	-	-110,053	-	455,185	-
Transfers in (Congressional Relations)	-48	-	-42	-	-	-	-	-	-	-
Sequestration	3,060	-	3,105	-	3,300	-	-3,300	-	-	-
Balance Available, SOY	-32,837	-	-15,796	-	-39,422	-	+39,422	-	-	-
Recoveries, Other (Net)	-7,366	-	-1,218	-	-	-	-	-	-	-
Total Appropriations	520,891	143	527,391	137	529,116	141	-73,931	-8	455,185	133

Justification of Increases and Decreases

EXTENSION ACTIVITIES

(1) An increase of $1,466,000 for Smith-Lever Act, Section 3(b) and (c) and Cooperative Extension ($297,964,000 available in 2018).

Smith-Lever 3(b) and (c) Act, Section base capacity funds help the land-grant universities to support their Cooperative Extension Service through development of practical applications of existing or improved practices or technologies in agriculture and through 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, which is supported with funds through Smith-Lever Act, Section 3(b) and (c), along with funding from State and local (county) sources. The capacity programs on a whole, including Smith-Lever Act, Section 3(b) and (c) funds, leveraged $1.86 for every $1 invested by the Federal Government. This program serves farmers, ranchers, foresters, and consumers in every county in the country. Increased funds will continue to support program activities.

America's youth are the agricultural workforce of tomorrow. Nearly 60,000 high-skilled agriculture job openings are expected annually in the U.S., yet only 35,000 graduates from Agricultural programs become available each year to fill them. Today's youth must be prepared to supply the larger U.S. workforce, including the gap for agriculture's workforce.

The National Institute of Food and Agriculture (NIFA) has a long history of promoting positive youth development (PYD) through the Cooperative Extension's 4-H program. 4-H as a model of PYD translates the sciences of engagement, learning, and change with youth and adults who work together to create sustainable community change. Funding provided through the Smith-Lever program reaches 6 million youth ages 5 to 19 years. NIFA will continue to support 4-H PYD to promote teamwork, problem-solving, communication, critical thinking, and professionalism. A continued investment of $50 million will ensure youth are provided opportunities to grow leadership skills necessary for success.

(2) A decrease of $12,373,000 for Expanded Food and Nutrition Education Program ($67,473,000 available in 2018).

The Expanded Food and Nutrition Education Program (EFNEP) is a national nutrition education program funded through NIFA and conducted by Cooperative Extension within the LGU system, which for nearly 50 years has provided leadership, oversight and delivery of EFNEP programming. In FY 2017, NIFA received $67.9 million in EFNEP funding for 76 land-grant universities. Other nutrition education programs—both public and private—have incorporated content and lessons learned through EFNEP. EFNEP continues as a leader and catalyst for nutrition education. One recent example of EFNEP's leadership is the development of WebNEERS, an online evaluation and reporting system that universities use to improve the efficiency and effectiveness of the program locally, and that NIFA uses to identify national trends, and program training and oversight needs. NIFA's partnership with LGUs allows for shared oversight that results in addressing national issues in a focused and deliberate way, while supporting local flexibility necessary for change to occur in a real-world environment. As stated in the FY 2018 budget justifications, NIFA is continuing an analysis of the current EFNEP formula to better reach targeted populations –particularly minorities and Native American populations-- given the changes in demographics, poverty rates, and levels of obesity in these populations since the formula was developed in 1981.

EFNEP has a proven positive return on investment. For instance, studies within individual States have shown health care savings ranging from $3 to over $10 for every Federal dollar invested in EFNEP. Since 1969, the program has reached 33 million low-income families and youth directly, and taught those families ways to improve their health by improving their nutrition, food safety, and physical activity practices. Using an evidence-based, hands-on, interactive approach, EFNEP's paraprofessional peer educators worked directly with 118,976 adults, 365,369 youth and reached more than 345,000 family members indirectly. EFNEP employs and trains more than 1,900 peer educators annually. By training and supervising these peer educators, EFNEP increases the employability of individuals and self-reliance of families and communities, while also developing strategic local partnerships that integrate programming into communities and teaching participants in the context of their lives. Poor health disproportionately affects minority and low-income populations, which are

impacted by EFNEP participation. EFNEP has a ripple effect that benefits the greater society—research shows that better health is associated with reduced health care costs, less absenteeism from work, and less dependence on emergency food assistance.

(3) Sustained support for Federally Recognized Tribes Extension Program (FRTEP) ($3,018,000 available in 2018).

NIFA provides funding through the FRTEP program to help establish Extension offices on Indian reservations that provide evidence-based knowledge to increase reservation farm productivity, engage youth, and promote a healthier, more prosperous knowledge-empowered community. The FRTEP program promotes rural development, strengthens stewardship of tribal lands, provides Native Americans access to safe, nutritious and secure food supply, and promoted positive youth development in Indian country. The eligible applicants are 1862 and 1890 land-grant institutions. It is administered as a four-year continuation peer reviewed competitive grant program. Award amounts are approximately $70,000 per extension site. Because funding is limited, FRTEP only serves 36 Extension offices in 19 states and only 76 of the 567 Federally Recognized Indian Tribes.

NIFA, with its decades of experience with the FRTEP program and Smith-Lever funded extension programs, is the only agency able to deliver this service at the lowest cost and the highest efficiency, with appropriate accountability measures to ensure program effectiveness.

(4) Sustained support for Children, Youth, and Families at Risk (CYFAR) ($8,338,000 available in 2018).

The Children, Youth, and Families at Risk (CYFAR) funds are authorized under Section 3 (d) of the Smith-Lever Act of May 8, 1914 as amended. Poverty is a problem in rural and suburban areas and in cities. Among all children under 18 years in the U.S., 43 percent live in low-income families and 21 percent—approximately one in five—lives in a poor family. This means that children are overrepresented among our nation's poor; they represent 23 percent of the population but comprise 33 percent of all people in poverty.

The vision of the CYFAR Program is a nation of strong, resilient families and communities in which children and youth lead positive, secure, and happy young lives while developing the skills, knowledge, and competencies necessary for fulfilling, contributing adult lives. Through the 1862 and 1890 extension systems NIFA supports low-income children, youth, and families through community projects, which demonstrate skill development relevant for resilience in nutrition, parenting, leadership development, physical activity, science and technology and workforce preparation skills. Since 1991, CYFAR has supported programs in more than 600 communities in all states and territories. With FY 2019 funding request of $8.379 million, NIFA proposes to serves a total of 109 communities through 45 projects in 42 States and territories.

(5) Sustained support for Extension Services at 1890 Institutions ($45,310,000 in 2018).

Capacity funds for Extension Services at 1890 Institutions are authorized under section 1444 of NARETPA and are used to support continuing agricultural and forestry extension activities at 1890 LGUs. NIFA supports 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. The funds distributed to the 19 Historically Black Colleges and Universities are leveraged with matching funding from non-federal sources that support several of USDA's new strategic goals and objectives, including (a) Maximize the ability of American agricultural producers to prosper by feeding and clothing the world; (b) Strengthen the stewardship of private lands; (c) Ensure productive and sustainable use of our national forest system lands; and (d) Provide all Americans access to a safe, nutritious, and secure food supply.

This program has enabled the 1890 land grant institutions to disseminate knowledge of new research in agriculture, forestry, positive youth development and other topics of importance to the underrepresented rural communities in their states; and the education of thousands of minority, first-generation college students they serve. This program is critically needed because wide disparities continue to persist in educational attainment and quality of life among the African American communities.

(6) Sustained support for Facility Improvements at 1890 Institutions ($19,596,000 available in 2018).

This program funds the acquisition and improvement of agricultural and food sciences facilities and equipment, including libraries, so that eligible 1890 land-grant institutions (LGUs) may participate fully in the development of human capital in the food and agricultural sciences. Annually, each institution is eligible to receive one award. The Facilities Improvements at 1890 Institutions Program has enabled the 1890 LGUs to acquire new technology for research, construct new buildings for education, and develop educational programs to teach rural communities new skills. In the long run, this program enables the education of thousands of minority, first-generation college students utilizing cutting-edge technology and skills needed by the global agribusiness industry. The funding for this program results in an increased number of African American students recruited, graduated, and employed in STEM disciplines related to NIFA's mission; and supports research and extension on several topics related to USDA's new strategic goals and objectives, including (a) Maximize the ability of American agricultural producers to prosper by feeding and clothing the world; (b) Strengthen the stewardship of private lands; (c) Ensure productive and sustainable use of our national forest system lands; and (d) Provide all Americans access to a safe, nutritious, and secure food supply.

This program is still needed because wide disparities continue to persist in the technology, equipment and building facilities of the 1890 Land-grant universities vis-à-vis 1862 Land-Grant Universities.

(7) Sustained support for Food Safety Outreach Program (FSOP) ($4,966,000 available in 2018).

The Food Safety Modernization Act (FSMA) shifted the focus of food safety regulation from response to contamination to prevention of contamination, with a strong focus on education and training. The legislation mandated that NIFA and FDA establish a memorandum of understanding to collaborate, develop, and manage a competitive grants program that provides training, outreach, and technical assistance to small and mid-sized producers and processors to ensure they are in compliance with FSMA guidelines. In FY 2015, NIFA in collaboration with FDA established a national infrastructure that included a National Coordination Center and 4 Regional Centers across the U.S. to facilitate training and technical assistance for producers and processors that are impacted by FSMA. In FY 2016, the program expanded upon that infrastructure by developing FSOP to address the needs of the intended audiences by providing smaller grants, Pilot Projects, Community Outreach Projects, and Multistate Projects. Since its inception in FY 2015, FSOP has awarded over $7 million for 27 awards to Community Based Organizations, Cooperative Extension at 1890 and 1862 LGUs, and local food hubs. In FY 2017, the FSOP continued to expand upon the infrastructure by recommending an additional 25 projects for award. These projects address extremely diverse and niche audiences in need of food safety education and outreach. Awarded projects will assist Hmong, Hispanic, and Plain communities, non- English speaking and low-literacy individuals, women, veterans and African American small producers and processors across the country.

FSOP is aligned with USDA's strategic goal, "Provide all Americans access to a safe, nutritious, and secure food supply." This program has led to a significant change in conditions of many small and mid-size producers and processors by providing appropriate and affordable training to assist them in meeting the FSMA guidelines for Preventative Controls and Produce Safety.

FSOP addresses an immediate need. Many of the small producers and processors receiving the trainings would have had to invest significant capital to meet the FSMA requirements. Many of these costs are off-set by trainings offered within their local regions that did not require extraordinary registration fees or travel time/funding.

The FSOP has received strong support and positive feedback from academia, industry, and federal agencies on its successful implementation. NIFA National Program Leaders co-lead the FSMA collaborative training Forum and serve on the Training Advisory Board to avoid overlap and ensure communication across the overall FSMA training portfolio which includes multiple cooperative grants led by FDA for specific communities, such as local and tribal farms and international education. The FSOP is a significant component to the overall FSMA training implementation plan.

(8) Sustained support for Extension Services at 1994 Institutions ($4,416,000 available in 2018).

NIFA administers Extension Services at 1994 Institutions programs as authorized in the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note), and provides funding to increase extension program capacity at 1994 LGUs to address special needs and/or demonstrate long-term sustained benefits of extension projects. With such funding the 1994 LGUs have developed 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. Many of these topics support the new USDA Strategic Plan.

Many residents of reservations, including Native Youth, live in abject poverty. Because this funding is limited, NIFA is only serving a few of the tribal communities that have received the services they need to improve educational and life outcomes of Native youth and help establish themselves as productive and self-reliant citizens.

The 1994 LGUs are essential for healthy and sustainable Indian communities and Tribal Reservations. NIFA's funding for 1994 Extension programs is critical because it helps to identify unique needs of tribal communities and provides culturally appropriate and evidence-based knowledge and best practices to improve farm and ranch enterprises, nutrition and obesity reduction activities, 4-H and tribal positive youth development initiatives.

(9) Sustained support for Food and Animal Residue Avoidance Database (FARAD) Program ($1,242,000 available in 2018).

Base funding supports 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. The drugs and pesticides used in modern animal agriculture improve animal health and thereby promote more efficient and humane production. FARAD is a repository of comprehensive residue avoidance information. FARAD also is sanctioned to provide these estimates to the U.S. Pharmacopeia-Drug Information Veterinary Medicine Advisory Committee. As a cooperative multistate program, FARAD is available nationwide to offer advice about residue avoidance.

This program serves farmers, ranchers, foresters, processors, and consumers by helping protect food systems from contaminants. It is also a critical defense in promoting trade of agricultural products as keeping contaminant residues from meats and other animal products is critical in enhancing our ability to export American meats and other agricultural products.

This program is a key component of the agency's portfolio that focuses on ensuring the biosecurity of America's food and agricultural systems by protecting the integrity, reliability, and sustainability of our agricultural enterprise against a wide array of known and potential pests and diseases harmful to plants, animals, and/or human health. These efforts are implemented through partnerships with scientists in our nation's colleges and universities, Federal agencies, and the private sector.

(10) An increase of $469,000 for Federal Administration ($8,300,000 available in 2018).

a. An increase of $469,000 for other necessary expenses ($7,752,000 available in 2018).

NIFA's programs are managed at the national level with a staff that represents 339 permanent full-time employees and 53 other employees at the end of FY 2017. 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 5 percent of funds provided from programs may be used to support administration of the programs as established by law.

b. Sustained support for Agriculture in the K-12 Classroom (AITC) ($548,000 available in 2018).

The authority for AITC program is covered in the "National Agricultural Research, Extension, and Teaching Policy Act of 1977," as amended (the Act) [7 U.S.C. 3101, et seq.] in several

sections that give the Secretary of Agriculture the authority, and delegated to the director of NIFA, to establish, support, promote, coordinate, and plan extension programs. Authorization of appropriations for extension and education programs is contained in general terms in Section 1464 of the Act [7 U.S.C. 3312]. USDA provides funding for AITC to improve agricultural literacy — awareness, knowledge, and appreciation — among PreK-12 teachers and their students. The organizations receiving this funding develop and deliver instructional materials in formal PreK-12 classrooms as well as through face-to-face teacher pre-service instruction, in-service instruction, student-centered online information, and online professional development for teachers.

Since 1981, with NIFA's support and leadership, AITC has made giant strides and has an active presence in every State. An Agricultural Literacy task force consisting of representatives from agriculture, business, education, and governmental agencies recommended that NIFA be the coordinator for national agricultural classroom literacy and that it sponsor regional meetings to help states organize their own programs. NIFA is the best entity to deliver these services as it continues to have the support of the task force and all the partner institutions, but also ensures the programmatic accountability, effectiveness, and efficiency.

(C) A decrease of $13,527,000 to eliminate certain extension programs ($13,527,000 available in 2018).

Program	FY 2018 ($000)	Decrease ($000)	FY 2019 ($000)
Farm Safety and Youth Farm Safety Education Programs	$4,579	-$4,579	0
New Technologies for Agricultural Extension	1,539	-1,539	0
Rural Health and Safety Education Programs	2,980	-2,980	0
Renewable Resources Extension Act	4,032	-4,032	0
Women and Minorities in STEM Fields	397	-397	0
Total	$13,527	-$13,527	0

A decrease is proposed to direct funding to higher priority activities.

Table 1 for FY 2017
Distribution of Federal Payments for Extension Activities

STATE	SMITH-LEVER FORMULA	FARM SAFETY	YOUTH FARM SAFETY	1890's UNIV & TUSK UNIV	FEDERALLY-RECOGNIZED TRIBES	EFNEP	FOOD SAFETY OUTREACH	YOUTH AT RISK	NEW TECHNOLOGIES AT AG EXT	1890 FACILITIES	RENEWABLE RESOURCES	INDIAN TRIBAL 1994 COLLEGES	OTHER	TOTAL FEDERAL FUNDS
ALABAMA	$7,143,762	-	-	$4,380,568	-	$2,206,362	$735,902	$140,000	-	-	$119,800	-	$600,000	$15,326,394
ALASKA	1,233,603	-	-	-	$166,000	262,925	-	140,000	-	-	97,145	$184,000	-	2,083,673
AMERICAN SAMOA	1,366,904	-	-	-	-	103,049	-	-	-	-	-	-	-	1,469,953
ARIZONA	2,150,416	-	-	-	568,000	713,693	-	-	-	-	62,382	283,000	299,237	4,076,728
ARKANSAS	5,995,552	-	-	1,928,090	-	1,413,957	256,322	-	-	-	172,608	-	2,004,619	11,771,148
CALIFORNIA	8,011,400	$180,000	-	-	-	3,599,909	305,612	-	-	-	95,696	-	7,213,759	19,406,376
COLORADO	3,305,560	180,000	-	-	-	662,348	-	420,000	-	-	58,036	-	297,506	4,923,450
CONNECTICUT	2,230,342	-	-	-	70,000	538,634	-	-	-	-	46,448	-	-	2,885,424
DELAWARE	1,347,213	-	-	1,186,766	-	412,258	-	-	-	-	59,948	-	909,624	3,915,809
DISTRICT OF COLUMBIA	1,204,360	-	-	-	-	110,302	-	-	-	-	13,500	-	250,000	1,578,162
FLORIDA	4,802,544	-	-	1,892,434	87,000	2,412,866	164,993	-	-	-	91,815	-	918,022	10,369,674
GEORGIA	8,230,817	180,000	-	2,614,965	-	2,371,510	672,096	140,000	-	-	107,748	-	1,146,988	15,464,124
GUAM	1,426,891	-	-	-	-	103,757	-	-	-	-	13,500	-	-	1,544,148
HAWAII	1,390,063	-	-	-	-	347,038	-	-	-	-	46,448	-	1,600,000	3,383,549
IDAHO	2,932,863	-	-	-	240,679	387,546	-	-	-	-	52,242	-	-	3,613,330
ILLINOIS	9,814,903	180,000	-	-	-	2,184,467	84,277	-	-	-	55,140	-	1,400,400	13,719,187
INDIANA	9,213,385	711,000	$100,000	-	-	1,282,833	-	140,000	-	-	53,692	-	322,000	11,822,910
IOWA	9,635,306	-	-	-	-	958,104	-	140,000	-	-	46,448	-	999,498	11,779,356
KANSAS	5,683,694	180,000	-	-	-	763,135	-	450,000	-	-	46,448	99,000	674,383	7,896,660
KENTUCKY	9,481,235	180,000	-	3,261,840	-	1,808,045	165,000	420,000	-	-	84,572	-	910,075	16,310,767
LOUISIANA	5,252,265	-	-	1,710,473	-	1,991,387	-	140,000	-	-	83,125	-	-	9,177,250
MAINE	2,422,567	178,274	-	-	-	498,667	-	140,000	-	-	59,485	-	597,252	3,896,245
MARYLAND	3,440,138	-	-	1,371,434	-	1,025,005	-	-	-	-	59,948	-	112,403	6,008,928
MASSACHUSETTS	2,746,490	-	-	-	-	1,037,018	398,442	-	-	-	46,448	-	-	4,228,398
MICHIGAN	9,263,126	-	-	-	80,000	1,866,029	-	280,000	$1,488,000	-	186,866	258,117	4,100,000	17,522,138
MICRONESIA	1,494,971	-	-	-	-	106,277	-	-	-	-	-	-	-	1,601,248
MINNESOTA	9,076,673	-	-	-	87,000	1,058,840	-	1,398,175	-	-	175,934	297,000	1,010,173	13,103,795
MISSISSIPPI	7,194,278	-	-	2,036,654	80,000	1,835,554	-	140,000	-	-	103,402	-	310,183	11,700,071
MISSOURI	9,136,022	180,000	-	3,354,495	-	1,717,636	-	140,000	-	-	87,469	-	-	14,615,622
MONTANA	2,831,898	-	-	-	365,741	381,792	-	140,000	-	-	65,278	928,000	617,733	5,330,442
NEBRASKA	5,164,362	180,000	100,000	-	-	610,150	-	140,000	-	-	46,448	99,000	1,177,123	7,517,083
NEVADA	1,288,320	-	-	-	222,000	292,712	-	220,000	-	-	47,898	-	500,000	2,570,930
NEW HAMPSHIRE	1,773,052	-	-	-	-	324,685	-	-	-	-	46,448	99,000	539,275	2,782,460
NEW JERSEY	2,737,472	-	-	-	-	1,138,404	-	140,000	-	-	46,448	-	-	4,062,324
NEW MEXICO	2,276,546	-	-	-	79,000	595,454	-	-	-	-	68,175	297,000	26,478	3,342,653
NEW YORK	8,518,676	-	-	-	-	3,402,660	846,132	145,175	-	-	85,558	-	1,601,794	14,599,995
NORTH CAROLINA	11,898,627	177,993	-	3,698,071	79,000	2,707,076	218,525	560,000	-	-	104,851	-	1,186,960	20,631,103
NORTH DAKOTA	3,510,471	-	-	-	83,000	420,124	55,000	-	-	-	46,448	747,000	-	4,862,043
NORTHERN MARIANAS	1,351,889	-	-	-	-	102,698	-	-	-	-	-	-	-	1,454,587
OHIO	11,305,902	180,000	100,000	1,151,046	-	2,396,817	200,000	560,000	-	-	77,330	-	498,880	16,469,975
OKLAHOMA	5,808,077	-	-	2,067,170	208,580	1,227,199	18,632	80,000	-	-	80,227	-	-	9,489,885
OREGON	3,941,584	-	-	-	81,000	599,222	199,899	140,000	-	-	88,454	-	94,566	5,144,725
PENNSYLVANIA	10,664,533	180,000	-	-	-	2,690,443	55,000	140,000	-	-	81,212	-	2,745,196	16,556,384
PUERTO RICO	6,762,911	-	-	-	-	1,431,208	-	-	-	-	13,500	-	-	8,207,619
RHODE ISLAND	1,137,893	-	-	-	-	385,645	-	140,000	-	-	46,448	-	299,844	2,009,830
SOUTH CAROLINA	5,852,630	-	-	1,870,988	-	1,872,974	-	140,000	-	-	88,918	-	600,000	10,425,510
SOUTH DAKOTA	3,731,203	-	-	-	-	462,886	-	-	-	-	46,448	297,000	-	4,537,537
TENNESSEE	9,041,235	176,494	-	2,938,031	-	2,134,897	164,980	-	-	-	86,021	-	661,280	15,202,938
TEXAS	13,404,685	180,000	-	4,462,126	-	4,555,596	-	300,000	-	-	112,093	-	322,000	23,336,500
UTAH	1,849,942	180,000	-	-	-	409,822	-	140,000	-	-	49,345	-	599,615	3,228,724
VERMONT	1,909,097	-	-	-	-	319,291	-	140,000	-	-	46,448	-	546,386	2,961,222
VIRGIN ISLANDS	1,393,247	-	-	-	-	102,434	-	140,675	-	-	13,500	-	-	1,649,856
VIRGINIA	7,434,715	179,589	-	2,465,602	70,000	1,846,178	165,000	-	-	-	100,505	-	2,185,173	14,446,762
WASHINGTON	4,413,630	-	-	-	173,490	793,168	-	-	-	-	82,660	266,000	2,169,340	7,898,288
WEST VIRGINIA	4,254,971	180,420	-	1,404,447	-	1,127,192	-	420,000	-	-	70,088	-	-	7,457,118
WISCONSIN	9,166,880	360,000	-	-	84,000	1,031,722	54,841	140,000	-	-	79,763	414,043	1,076,676	12,407,925
WYOMING	1,689,584	-	-	-	88,000	275,720	-	-	-	-	50,795	-	-	2,104,099
PEER PANEL/OTHER	1,125	1,125	705	-	4,950	-	39,347	5,175	-	$1,662,340	-		124,591	1,839,358
SUBTOTAL FEDERAL	291,742,500	4,124,895	300,705	43,795,200	2,917,440	67,417,320	4,800,000	8,059,200	1,488,000	1,662,340	3,897,600	4,268,160	43,249,032	477,722,392
ADMINISTRATION	8,257,500	171,853	12,547	1,824,800	121,560	516,680	200,000	335,800	62,000	789,200	162,400	177,840	11,565,200	24,197,380
OBLIGATIONS	300,000,000	4,296,748	313,252	45,620,000	3,039,000	67,934,000	5,000,000	8,395,000	1,550,000	2,451,540	4,060,000	4,446,000	54,814,232	501,919,772
BALANCE	-	-	-	-	-	-	-	-	-	33,184,906	-	-	6,237,184	39,422,090
TOTAL	300,000,000	4,296,748	313,252	45,620,000	3,039,000	67,934,000	5,000,000	8,395,000	1,550,000	35,636,446	4,060,000	4,446,000	61,051,416	541,341,862

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Table 2 for FY 2018
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	RENEWABLE RESOURCES
FEDERAL ADMINISTRATION	8,176	183	1,812	121	498	334	61	789	161
UNOBLIGATED BALANCE	289,788	4,396	43,498	2,897	66,975	8,004	1,478	51,992	3,871
TOTAL	297,964	4,579	45,310	3,018	67,473	8,338	1,539	52,781	4,032

	RURAL HEALTH & SAFETY	FOOD SAFETY OUTREACH	FEDERAL ADM-SPECIAL PROJECTS	Extension Services at 1994 Institutions	Food Animal Residue Avoidance	Women and Minorities in STEM Fields	MILITARY VETERANS	Mandatory Programs a/	TOTAL FEDERAL FUNDS
FEDERAL ADMINISTRATION	119	199	8,300	177	50	16	399	4,130	25,525
UNOBLIGATED BALANCE	2,861	4,767	-	4,239	1,192	381	9,567	43,806	539,713
TOTAL	2,980	4,966	8,300	4,416	1,242	397	9,966	47,937	565,238

a/ Mandatory Programs includes: Food Insecurity Nutrition Incentive Program, Beginning Farmer and Ranchers Development & Risk Management

Table 3 for FY 2019
Distribution of Federal Payments for Extension Activities

STATE	SMITH-LEVER FORMULA	1890's UNIV & TUSKEGEE UNIV	FEDERALLY-RECOGNIZED TRIBES	EFNEP	YOUTH AT RISK	1890 FACILITIES
FEDERAL ADMINISTRATION	8,235	1,812	121	3	334	784
UNDISTRIBUTED	291,195	43,498	2,897	55,097	8,004	18,812
TOTAL	299,430	45,310	3,018	55,100	8,338	19,596

	Food Animal Residue Avoidance Database	FOOD SAFETY OUTREACH	FEDERAL ADM-SPECIAL PROJECTS	Extension Services at 1994 Institutions	Mandatory Programs a/	TOTAL FEDERAL FUNDS
FEDERAL ADMINISTRATION	50	199	8,769	177	200	20,685
UNDISTRIBUTED	1,192	4,767		4,239	4,800	434,502
TOTAL	1,242	4,966	8,768	4,416	5,000	455,185

a/ Mandatory Programs includes: Risk Management

EXTENSION ACTIVITIES

Classification by Objects
(Dollars in thousands)

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Personnel Compensation:				
Washington D.C.	$10,349	$9,580	$10,784	$8,689
11.1 - Full-time employees	10,349	9,580	10,784	8,689
12.0 - Personnel Benefits	2,007	1,858	2,092	1,685
Total, personnel comp. and benefits	12,356	11,438	12,876	10,374
Other Objects:				
21.0 - Travel & Transportation of Persons	79	73	82	66
23.3 - Comm., Util., Misc. Charges	3,348	3,099	3,489	2,811
24.0 - Printing and Reproduction	94	87	98	79
25.1 - Advisory and Assistance Services	4,984	4,614	5,194	4,184
25.4 - Oper & Maintenance of Facilities	81	75	84	68
25.5 - Research & Development Contracts	3,841	3,556	4,003	3,225
26.0 - Supplies and Materials	109	101	114	92
31.0 - Equipment	80	74	84	67
41.0 - Grants, Subsidies & Contributions	517,194	478,803	539,214	434,219
Total, Other Objects	529,810	490,482	552,362	444,811
99.9 - Total, new obligations	542,166	501,920	565,238	455,185
Position Data:				
Average Salary (dollars), ES positions	183,628	188,071	191,644	193,503
Average Salary (dollars), GS positions	106,377	110,872	112,979	114,074
Average Grade, GS positions	11.9	12.1	12.1	12.1

Status of Programs

EXTENSION ACTIVITIES:

Current Activities:

- 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.

- 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); Farm Safety and Youth Farm Safety Education and Certification; Children, Youth, and Families at Risk; Federally-Recognized Tribes Extension Program; 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.

- Extension 1890 Institutions. 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. Section 7129 of Public Law 113-79 makes Central 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 funds made available to the 1890s 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.

- 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.

- 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.

- 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.

- 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.

- 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.

- 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.

- 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: promoting a safe, sufficient, and nutritious food supply for all Americans and for people around the world; fostering sustainable agricultural policies that foster economic viability for small and mid-sized farms and rural businesses, protecting natural resources, and promoting value-added agriculture; developing national leadership in weather mitigation and adaptation; building a modern workplace with a modern workforce; and developing support for 21st century rural communities.

- Food Safety Outreach Program. The program is designed to develop food safety training, education and technical assistance for small farm owners and food processors affected by the Food Safety Modernization Act.

Selected Examples of Recent Progress:

- Smith-Lever 3(b) and (c). Standing Rock Reservation in North Dakota is far removed from major cities, and youth living there have few opportunities to learn from business role models. To encourage youth entrepreneurship, North Dakota State University (NDSU) extension partnered with the Solen School District to offer 4-H members a hands-on experience of operating a viable business. To date, more than 300 youth have participated in the Sioux Image business at Solen High School. The school business has led to a 35 percent increase in graduation rates, expanded peer mentoring opportunities, and six students enrolled in higher education, one graduating with a degree in graphic design.

- Smith-Lever 3 (d). The Expanded Food and Nutrition Education Program (EFNEP). 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 roughly a half million low-income families and youth how to change their behavior toward food. In 2016, 84 percent of EFNEP families reported living at or below 100 percent of the poverty level. The most recent national review of EFNEP data showed that 94 percent of EFNEP graduates improved the quality of their diets, 89 percent improved their nutrition practices, 84 percent stretched their food dollars farther, 65 percent handled their food more safely, and 40 percent increased their physical activity by at least 30 minutes each day. In 2016, collectively EFNEP graduates saved more than $1.3 million in food costs and 18 percent more participants reported not running out of food by the end of the month than before the program. 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. An example from Iowa State University Extension and Outreach illustrates how EFNEP influences lives on a personal level. A young, single mother was struggling with keeping herself well-nourished while breastfeeding her baby. She had not learned basic cooking skills growing up and depended on others to cook for her, or used processed, prepared foods that she could get at the convenience store. By the time she finished EFNEP, she felt more confident in the kitchen. She learned to prepare recipes on her own and how to use the healthy foods she received as a WIC participant. She is now more committed to eating well both for herself and her baby and feels she has the skills to make that happen.

Children, Youth and Families at Risk Program (CYFAR). CYFAR develops and delivers education programs that equip limited resource families and youth who are at-risk with the skills needed to lead positive, productive, contributing lives. An example of this is the Parent and Child Reading Enhancement Program (PCREP) at Alabama A & M University, which helps parents more effectively demonstrate and reinforce good reading behaviors in their children. Parents reported increasing knowledge of the importance of home literacy practices to support child learning, more access to children's books, and spent more time reading with their children at home after completing the program.

Federally-Recognized Tribes Extension Program. Aaniiih Nakoda College in Montana fights food insecurity through community gardens which have trained students and increased reservation wealth year round. February through May, the greenhouse provides a hands-on training site for 30 Botany and Ethnobotany students. In the summer interns learn how to operate and manage the college's organic gardens. The program drew 76 participants for the annual "We Dig You Pick" event where participants all receive a 50-pound share of the potato harvest. Each harvest returns funding to the community and serves to supply participants with healthy, fresh produce, ensuring that both students and the community benefit. The most recent demonstration garden tours attracted 125 adults, 168 grade school, and 66 preschool aged participants ensuring that the initiative continues to move forward supplying the community with an understanding of sustainable agriculture methods while also helping to meet the food and nutrition needs of families.

- Extension 1890 Institutions. Corn, soybeans, and wheat are the major agronomic crops grown in Maryland, representing over 900,000 acres of cropland and valued at over $700 million. Farmers from the Lower Eastern Shore to Western Maryland participated in annual winter agronomy meetings to increase crop production knowledge, meet regulatory requirements and improve production practices. Agronomy meeting participants were asked the expected profitability increase per acre due to knowledge and skills gained from Maryland Extension programming offered by the University of Maryland Eastern Shore. The average participant increases profitability between $16.23 and $25.23 per acre. Using the average acres farmed per person the overall average increase in profitability was about $12,239 per person ($20.23x605 acre).

- 1890 Facilities. Tuskegee University in Alabama is working to develop an outreach and teaching facility for livestock production. The University's Cooperative Extension division provides services to beef and poultry producers in the Black Belt region, a southern region that has a high percentage of African-American farmers and ranchers, and the surrounding counties. The project includes a red meat slaughtering unit, poultry research, teaching and outreach facility, and a teaching complex providing outdoor laboratory facilities for veterinary faculty and students. These facilities, when complete, will provide the needed space and equipment needed to enhance the programs offered.

- Extension Services at 1994 Institutions. According to the Department of Health and Human Services' Indian Health Service, American Indians are 2.2 times more likely to have diabetes compared to non-Hispanic whites. The United Tribes Technical College (UTTC), in Bismarck, North Dakota, is doing its part to lower that number by mentoring nearly 450 people at five diabetes-related events. UTTC also produced three publications that were delivered to more than 11,000 local households. In their final year, UTTC intends to host 3training sessions for 10-15 people each, covering topics such as understanding the human body, nutrition, and physical activity.

- Food Safety Outreach Program. In fiscal years 2016 to 2017, NIFA expanded upon the regional center infrastructure of the program to address the needs of small and mid-sized producers and processors affected by the Food Safety Modernization Act (FSMA) by providing smaller grants, Pilot Projects, Community Outreach Projects, and Multi-state Education and Training Projects. As of the third year, the program has awarded almost $12 million through fifty awards to Community Based Organizations, Cooperative Extension at 1890 and 1862 Land-Grant Universities, and local food hubs. These projects address both the extremely diverse and niche audiences in need of food safety education and outreach such as Hmong, Hispanic, and Plain communities, including non-English speaking and low-literacy individuals, women, veterans, and African American small producers and processors across the country. Through the Southern Regional Center at the University of Florida, the Western Regional Center at Oregon State University, and in collaboration with other Land-Grant Universities and Community Based Organizations, these institutions have certified over 239 Food Safety Preventative Controls Alliance and Produce Safety Alliance instructors, and trained over 1,200 individuals.

Appropriation Language

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
1 administrative expenses, [$35,756,000]$13,037,000:[*Provided*, That funds for the Food and Agriculture Defense Initiative shall remain available until September 30, 2019:] *Provided [further]*, That notwithstanding any other provision of law, indirect costs shall not be charged against any Extension Implementation Program Area grant awarded under the Crop Protection/Pest Management Program (7 U.S.C. 7626).

Explanation of Change

The first change eliminates most integrated discretionary annual and multi-year funding with the exception of the Crop Protection/Pest Management program.

Lead-Off Tabular Statement
Integrated Activities

Budget Estimate, 2019	$13,037,000
2018 Annualized Continuing Resolution	35,756,000
Change in Appropriation	-22,719,000

INTEGRATED ACTIVITIES
Project Statement
Adjusted Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Methyl Bromide Transition Program	$2,000	-	$2,000	-	$1,986	-	-$1,986 (D)	-	-	
Organic Transition Program	4,000	-	4,000	-	3,973	-	-3,973 (D)	-	-	
Regional Rural Development Centers Program	1,000	-	2,000	-	1,986	-	-1,986 (D)	-	-	
Food and Agriculture Defense Initiative (Homeland Security)	6,700	-	8,000	-	7,946	-	-7,946 (D)	-	-	
Crop Protection/Pest Management	17,200	-	20,000	-	19,865	-	-6,828 (1)	-	$13,037	
Subtotal, Discretionary Appropriations	30,900	-	36,000	-	35,756	-	-22,719	-	13,037	-
Mandatory Appropriations:										
Specialty Crop Grant Programs Sec. 7311	51,260	-	51,205	-	51,370	-	+28,630 (D)	-	80,000	
Emergency Citrus	23,300	-	23,275	-	23,350	-	-23,350 (D)	-	-	
Organic Research Initiative Sec. 7206	18,640	-	18,620	-	18,680	-	-18,680 (D)	-	-	
Total Appropriations	124,100	-	129,100	-	129,156	-	-36,119	-	93,037	-
Rescissions, Transfers, and Seq. (Net)	6,800	-	6,900	-	6,600	-	-6,600	-	-	
Total Appropriation	130,900	-	136,000	-	135,756	-	-42,719	-	93,037	-
Sequestration	-6,800	-	-6,900	-	-6,600	-	+6,600	-	-	-
Balance Available, SOY	23,982	-	25,624	-	23,218	-	-23,218	-	-	-
Recoveries, Other (Net)	146	-	65	-	-	-	-	-	-	-
Total Available	148,228	-	154,789	-	152,374	-	-59,337	-	93,037	-
Lapsing Balances	-	-	-12	-	-	-	-	-	-	-
Balance Available, EOY	-25,624	-	-23,218	-	-	-	-	-	-	
Total Obligations	122,604	5	131,559	5	152,374	5	-59,337	-3	93,037	2

INTEGRATED ACTIVITIES
Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Methyl Bromide Transition Program	$2,000	-	$2,000	-	$1,986	-	-$1,986	-	-	-
Organic Transition Program	4,000	-	4,000	-	3,973	-	-3,973	-	-	-
Regional Rural Development Centers Program	1,000	-	2,000	-	1,986	-	-1,986	-	-	-
Food and Agriculture Defense Initiative (Homeland Security)	6,688	-	7,948	-	8,266	-	-8,266	-	-	-
Crop Protection/Pest Management	17,200	-	20,000	-	19,865	-	-6,828	-	$ 13,037	-
Subtotal, Discretionary Obligations	30,888	-	35,948	-	36,076	-	-23,039	-	13,037	-
Mandatory Obligations:										
Specialty Crop Grant Programs Sec. 7311	51,260	-	51,205	-	51,370	-	+28,630	-	80,000	-
Emergency Citrus	21,816	-	25,786	-	46,248	-	-46,248	-	-	-
Organic Research Initiative Sec. 7206	18,640	-	18,620	-	18,680	-	-18,680	-	-	-
Total Obligations	122,604	-	131,559	-	152,374	-	-59,337	-	93,037	-
Lapsing Balances	-	-	12	-	-	-	-	-	-	-
Balance Available, EOY	25,624	-	23,218	-	-	-	-	-	-	-
Total Available	148,228	-	154,789	-	152,374	-	-59,337	-	93,037	-
Sequestration	6,800	-	6,900	-	6,600	-	-6,600	-	-	-
Balance Available, SOY	-23,982	-	-25,624	-	-23,218	-	+23,218	-	-	-
Recoveries, Other (Net)	-146	-	-65	-	-	-	-	-	-	-
Total Appropriation	130,900	5	136,000	5	135,756	5	-42,719	-3	93,037	2

Justification of Increases and Decreases

INTEGRATED ACTIVITIES

(1) A decrease of $6,828,000 for Crop Protection/Pest Management (CP/PM) ($19,865,000 available in 2018).

The program funding is provided for applied research to monitor pests of crops, develop therapies against pests and diseases as well as for delivery of information and personalized advice to farmers. The program supports research and extension efforts that increase food security, support rural economies by increasing market opportunities for U.S. agricultural products, and respond to major pest management challenges with comprehensive approaches that are economically viable, environmentally sound and protect human health. The program provides support through competitively-awarded funding in three program areas: Applied Research and Development, Extension Implementation, and Regional Coordination. The CP/PM program develops new integrated pest management (IPM) tools and strategies that help farmers adopt and implement effective, affordable, and environmentally-sound pest management practices. Use of these practices will reduce economic losses caused by diseases, insects, weeds, and other pests that affect agricultural production systems. CP/PM will also provide support for projects that respond to pest management challenges with coordinated state-based, regional and national research, education and extension programs, ultimately catalyzing further development and use of IPM approaches. The funding will allow the program to focus on the most critical components of the program: (1) Extension Implementation Program Area, which supports projects to increase IPM implementation among the farmers, ranchers, and foresters; and (2) Regional Coordination Program Area, which supports coordinated pest management practices at regional scales.

This program supports the biosecurity of America's food and agricultural systems by protecting the integrity, reliability, and sustainability of our agricultural enterprise against a wide array of known and potential threats from pests and diseases harmful to plants, animals, and/or human health. These efforts are implemented through working partnerships with scientists in our nation's colleges and universities, other Federal agencies, and the private sector.

(D) A decrease of $15,891,000 to eliminate certain integrated programs ($15,891,000 available in 2018).

	FY 2018 ($000)	Decrease ($000)	FY 2019 ($000)
Methyl Bromide Transition Program	$1,986	-$1,986	0
Organic Transition Program	3,973	-3,973	0
Regional Rural Development Centers Program	1,986	-1,986	0
Food and Agriculture Defense Initiative	7,946	-7,946	0
Total	$15,891	-$15,891	0

A decrease is proposed to direct funding to higher priority activities.

TABLE 1 - FISCAL YEAR 2017

DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED ACTIVITIES

STATE	HOMELAND SECURITY	METHYL BROMIDE	ORGANIC TRANSITION	CROP PROTECTION/ PEST MANAGEMENT	RURAL DEVELOPMENT CENTERS	SPECIALTY CROP RESEARCH INITIATIVE	EMERGENCY CITRUS DISEASE RESEARCH AND EXTENSION PROGRAM	ORGANIC AGRICULTURAL RESEARCH AND EXTENSION INITIATIVE	TOTAL FEDERAL FUNDS
ALABAMA	-	-	-	$550,870	-	-	-	-	$550,870
ALASKA	-	-	-	150,129	-	-	-	-	150,129
AMERICAN SAMOA	-	-	-	-	-	-	-	-	-
ARIZONA	-	-	-	578,493	-	-	-	-	578,493
ARKANSAS	-	-	-	179,445	-	$2,447,432	-	-	2,626,877
CALIFORNIA	$925,230	$499,749	-	1,180,000	-	7,007,530	$5,112,000	-	14,724,509
COLORADO	-	-	-	150,471	-	2,538,539	-	-	2,689,010
CONNECTICUT	-	-	$459,978	179,940	-	-	-	-	639,918
DELAWARE	-	-	-	164,468	-	-	-	-	164,468
DISTRICT OF COLUMBIA	-	-	-	-	-	-	-	$91,759	91,759
FLORIDA	539,983	-	-	483,964	-	-	7,190,385	1,918,673	10,133,005
GEORGIA	385,247	-	-	504,449	-	45,470	1,821,197	-	2,756,363
GUAM	-	-	-	67,800	-	-	-	-	67,800
HAWAII	-	-	-	94,500	-	-	-	-	94,500
IDAHO	-	499,998	-	179,092	-	-	-	-	679,090
ILLINOIS	-	-	-	1,179,942	-	-	-	1,999,559	3,179,501
INDIANA	577,935	-	-	268,565	-	-	-	-	846,500
IOWA	385,247	-	-	273,000	-	-	-	3,564,840	4,223,087
KANSAS	539,983	-	-	571,146	-	-	6,068,010	-	7,179,139
KENTUCKY	121,031	-	-	453,881	-	-	-	-	574,912
LOUISIANA	-	-	-	354,000	-	-	-	-	354,000
MAINE	-	-	-	171,413	-	-	-	-	171,413
MARYLAND	-	-	-	273,000	-	-	-	-	273,000
MASSACHUSETTS	-	-	-	270,542	-	-	-	-	270,542
MICHIGAN	972,790	-	-	190,500	$474,880	4,890,038	-	-	6,528,208
MICRONESIA	-	-	-	-	-	-	-	-	-
MINNESOTA	-	-	744,484	183,000	-	5,485,450	-	50,000	6,462,934
MISSISSIPPI	-	498,387	-	146,738	474,880	-	-	1,998,748	3,118,753
MISSOURI	46,000	-	499,927	485,539	-	-	-	474,141	1,505,607
MONTANA	-	-	-	472,997	-	-	-	-	472,997
NEBRASKA	-	-	-	512,484	-	-	-	-	512,484

TABLE 1 - FISCAL YEAR 2017

DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED ACTIVITIES

STATE	HOMELAND SECURITY	METHYL BROMIDE	ORGANIC TRANSITION	CROP PROTECTION/ PEST MANAGEMENT	RURAL DEVELOPMENT CENTERS	SPECIALTY CROP RESEARCH INITIATIVE	EMERGENCY CITRUS DISEASE RESEARCH AND EXTENSION PROGRAM	ORGANIC AGRICULTURAL RESEARCH AND EXTENSION INITIATIVE	TOTAL FEDERAL FUNDS
NEVADA	-	-	-	203,999	-	-	-	-	203,999
NEW HAMPSHIRE	-	-	-	130,948	-	-	-	467,902	598,850
NEW JERSEY	46,000	-	-	351,000	-	-	-	-	397,000
NEW MEXICO	46,000	-	-	196,071	-	-	-	-	242,071
NEW YORK	616,033	-	-	1,454,885	-	13,490,356	-	836,804	16,398,078
NORTH CAROLINA	385,247	-	-	1,747,992	-	-	-	-	2,133,239
NORTH DAKOTA	-	-	-	172,134	-	-	-	-	172,134
NORTHERN MARIANAS	-	-	-	-	-	-	-	-	-
OHIO	385,247	-	-	237,306	-	-	-	-	622,553
OKLAHOMA	-	-	-	99,807	-	-	-	-	99,807
OREGON	-	-	499,858	272,217	-	-	-	1,995,665	2,767,740
PENNSYLVANIA	385,247	-	118,238	420,609	474,880	-	-	1,955,524	3,354,498
PUERTO RICO	-	-	-	171,263	-	-	-	-	171,263
RHODE ISLAND	-	-	-	116,132	-	-	-	-	116,132
SOUTH CAROLINA	-	-	-	822,124	-	3,045,122	4,274,523	-	8,141,769
SOUTH DAKOTA	-	-	-	358,000	-	-	-	-	358,000
TENNESSEE	-	-	499,924	182,067	-	-	-	-	681,991
TEXAS	385,247	-	499,802	180,000	-	8,927,579	-	1,227,409	11,220,037
UTAH	-	-	-	113,622	474,880	-	-	999,404	1,587,906
VERMONT	-	-	-	254,195	-	-	-	-	254,195
VIRGIN ISLANDS	-	-	-	-	-	-	-	-	-
VIRGINIA	-	393,049	-	180,000	-	-	-	-	573,049
WASHINGTON	385,247	-	458,145	468,709	-	-	-	-	1,312,101
WEST VIRGINIA	46,000	-	-	82,916	-	-	-	-	128,916
WISCONSIN	385,247	-	-	225,000	-	46,550	-	-	656,797
WYOMING	121,031	-	-	150,690	-	-	-	-	271,721
BIOTECH	-	-	-	14,727	-	382,907	373,721	36,818	808,173
SBIR	-	19,866	39,731	198,656	19,866	762,914	346,779	184,949	1,572,761
PEER PANEL/OTHER	-	8,337	18,684	118,419	-	63,318	-	67,285	276,043
FED ADMIN	268,000	80,614	161,229	806,144	80,614	2,071,795	600,000	750,520	4,818,916
SUBTOTAL	7,947,992	2,000,000	4,000,000	20,000,000	2,000,000	51,205,000	25,786,615	18,620,000	131,559,607
UNOBLIGATED BALANCE	320,008	-	-	-	-	-	22,184,974	-	22,504,982
TOTAL	8,268,000	2,000,000	4,000,000	20,000,000	2,000,000	51,205,000	47,971,589	18,620,000	154,064,589

NOTE: An unobligated balance of about $700 thousand is associated with the International Science Education Grants program. New appropriations were last provided in FY 2011.

TABLE 2 - FISCAL YEAR 2018
DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED PROGRAMS

STATE	METHYL BROMIDE	ORGANIC TRANSITION RISK ASSESSMENT	CROP PROTECTION/PEST MANAGEMENT PROGRAMS	REGIONAL RURAL DEVELOPMENT CENTERS	HOMELAND SECURITY	ORGANIC AGRICULTURAL RESEARCH AND EXTENSION INITIATIVE	SPECIALTY CROPS RESEARCH INITIATIVE	EMERGENCY CITRUS RESEARCH AND EXTENSION PROGRAM	TOTAL FEDERAL FUNDS
SBIR	20,000	40,000	203,000	20,000	-	191,000	789,000	359,000	1,622,000
BIOTECH RISK	-	-	15,000	-	-	37,000	383,000	302,000	737,000
FEDERAL ADMIN OBLIGATED	80,000	159,000	801,000	80,000	638,000	747,200	2,054,800	1,932,000	6,492,000
UNDISTRIBUTED	1,886,000	3,774,000	18,846,000	1,886,000	7,628,000	17,704,800	48,143,200	43,655,000	143,523,000
TOTAL OBLIGATIONS	1,986,000	3,973,000	19,865,000	1,986,000	8,266,000	18,680,000	51,370,000	46,248,000	152,374,000

TABLE 3 - FISCAL YEAR 2019
DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED PROGRAMS

STATE	CROP PROTECTION/ PEST MANAGEMENT PROGRAMS	SPECIALTY CROPS RESEARCH INITIATIVE	TOTAL FEDERAL FUNDS
SBIR	133,499	1,229,000	1,362,499
BIOTECH RISK	14,727	685,000	699,727
FEDERAL ADMIN OBLIGATED	521,480	3,200,000	3,721,480
UNDISTRIBUTED	12,367,294	74,886,000	87,253,294
TOTAL OBLIGATIONS	13,037,000	80,000,000	93,037,000

INTEGRATED ACTIVITIES

Classification by Objects
(Dollars in thousands)

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Personnel Compensation:				
Washington D.C.	$769	$839	$966	$584
11.1 - Full-time employees	769	839	966	584
12.0 - Personnel Benefits	132	144	166	100
Total, personnel comp. and benefits	901	983	1,132	684
Other Objects:				
21.0 - Travel & Transportation of Persons	497	542	624	377
22.0 - Transportation of Things	3	3	4	2
23.3 - Comm., Util., Misc. Charges	342	373	430	260
25.1 - Advisory and Assistance Services	762	831	957	578
25.4 - Oper & Maintenance of Facilities	316	345	397	240
25.5 - Research & Development Contracts	728	794	914	552
26.0 - Supplies and Materials	20	22	25	15
31.0 - Equipment	30	32	38	23
41.0 - Grants, Subsidies & Contributions	119,005	127,634	147,853	90,306
Total, Other Objects	121,703	130,576	151,242	92,353
99.9 - Total, new obligations	122,604	131,559	152,374	93,037
Position Data:				
Average Salary (dollars), ES positions	183,628	188,071	191,644	193,503
Average Salary (dollars), GS positions	106,377	110,872	112,979	114,074
Average Grade, GS positions	11.9	12.1	12.1	12.1

Status of Programs

INTEGRATED ACTIVITIES:

Current Activities:

- Section 406 Programs. Per Section 406 of AREERA, grants are awarded on a competitive basis to support integrated, multifunctional agricultural research, extension, and education activities. Programs include: The Methyl Bromide Transition Program supports the discovery and implementation of practical pest management alternatives for commodities affected by the methyl bromide phase-out. The Organic Transition 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. The Crop Protection/Pest Management Program, supports integrated pest management projects that respond to pest management challenges with coordinated state-based, regional and national research, education, and extension programs.

- Regional Rural Development Centers. These programs 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. The program improves the social and economic well-being of rural communities in their respective regions.

- Food and Agriculture Defense Initiative (FADI). The FADI Program is authorized Section 1484 of the Farm Security and Rural Investment Act of 2002. 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:

- Crop Protection/Pest Management Program (CPPM). The Southern Integrated Pest Management Center established a working group to address the regional priority for effective and economical integrated pest management recommendations for the ornamental shrub industry. The working group produced a comprehensive digital/print publication on Integrated Pest Management for Shrubs in the Southeastern U.S. Nursery Production. This digital/print publication was written to benefit and impact the 2,483 growers in the Southeastern U.S. with annual farm gate revenue of $1.1 billion, a quarter of all U.S. production. Respondents to a survey, showed that $408,832 annual savings were directly realized by growers who had used the IPM recommendations and that a potential $5.62 million in savings per year could be saved by the growers who purchased the publication in 18 states.

Summary of Budget and Performance

The National Institute of Food and Agriculture (NIFA) was established on October 1, 2009, pursuant to Section 7511(f)(2) of the Food, Conservation, and Energy Act of 2008, which amends the Department of Agriculture Reorganization Act of 1994 (7 U.S.C. 6971). The mission of NIFA is to invest in and advance agricultural research, education, and extension to solve societal challenges.

NIFA has four strategic goals, and seven science sub-goals, that contribute to three of the Department's Strategic Goals.

Performance Measure:

Efficiency Measure: Competitive and non-competitive grant proposal review time in days from receipt of proposal to award.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Average	190	170	172	194	186	186	186

Selected Past Accomplishments Toward the Achievement of the Outcome:

- The new Streamlined Continuation Process for multiyear grants was fully implemented in 2017, complementing the electronic file system. This process reduces the burden on recipients of multi-year awards as they request their next increment of funding by electronically generating proposals using more targeted updates about project progress. Now, recipients spend less time and resources reapplying each year, and staff use fewer systems to process the award, resulting in time saved and fewer errors when awarding competitive and non-competitive grants.

- The Streamlined Matching Documentation process for programs requiring matching funds further reduces the burden on recipients of awards which require matching funds by waiving the requirement for the Matching Commitment letters to be submitted with the proposal. NIFA staff spend less time scrutinizing these letters which makes the award process faster.

- All FY 2017 capacity and infrastructure agreements were processed through the new ezFedGrants system, averaging 56 days from the creation of the draft agreement to award. This new system provides greater visibility and data integrity of the entire process for individual agreements, streamlining processing time through the seamless integration of recipient Automated Standard Application for Payments (ASAP) account set up, reducing staff time and manual entry errors.

Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:

- Maintain current service levels for grants processing.

- Build additional functionality in ezFedGrants to enable the processing of competitive grants programs.

- In FY 2018, NIFA will be putting a streamlined process in place for the pre-award grants management budget review process. This streamlining will decrease the burden on the pass-through entity and NIFA by eliminating both the need to submit itemized sub award budgets and issues arising from the review of these budgets. This will additionally cut down on processing time delays due to sub recipient communication issues.

- Improve the integration of data from the Capacity and Infrastructure grants processed in the new USDA ezFedGrants system with other systems for reporting Competitive and Non-Competitive grants.

Performance Measure:

Number of college graduates prepared for the professional and technical workforce in the food and agricultural industry.							
	2013 Estimate	2014 Estimate	2015 Estimate	2016 Estimate	2017 Estimate	2018 Target	2019 Target
Number Per Year	29,300	29,300	35,400	39,335	40,324	27,000	29,000

Selected Past Accomplishments Toward the Achievement of the Outcome:

- A Multi-State committee of land-grant university researchers, Extension specialists, and partners is working to advance controlled environment technology which enables plants to be grown in harsh climates. This research team collaborated with the National Aeronautics and Space Administration (NASA), the Fairchild Tropical Botanic Gardens, and over 100 schools in south Florida to conduct experiments helping NASA determine which edible plants can be grown on the International Space Station. Engaging in experiments with real-world applications sparks interest in science, technology, engineering and math among high school and college students and provides valuable training for the next generation of scientists.

- Leech Lake Tribal College was ranked by Washington Monthly as the seventh of "America's 50 Best Community Colleges" in 2010. It was one of two Tribal Colleges and Universities to earn this recognition. Since then the school has increased the graduation rate of students, meeting the 20 percent goal set for 2020 early. Leveraging Education Equity funding, partnerships, and Tribal Colleges Research and Extension grants, students now have expanded research and internship opportunities. Projects in science, technology, engineering and math (STEM) are coordinated to increase student involvement and experience through their Pond Watch research and the High Powered Rocket Program. Through STEM recruitment efforts, such as Family STEM Night held each semester, over 100 people are exposed to the college and community.

- A Hispanic Serving Institution Education project at Texas A&M University – Kingsville is designed to engage undergraduate students that are traditionally underrepresented in the sciences to enhance experiential learning and expose these students to research and careers in the agricultural sciences. The project provided access and support to the USDA mission relevant STEM disciplines in the food, agricultural, natural resources, and human (FANH) sciences for 5 Hispanic Serving Institutions. Grant funds supported the recruitment of underrepresented students, curriculum development, research career experiences, partnerships, graduation in FANH disciplines, and other areas. The project served 335 students of which 164 degrees have been awarded by 2015.

- The Agriculture and Food Research Initiative's Education and Workforce Development program (AFRI EWD) supports workforce development by offering fellowship and experiential learning opportunities that prepare students and researchers for careers in the STEM agricultural pipeline. The Research and Extension Experiences for Undergraduates program area promotes learning experiences allowing students to enter the agricultural workforce with exceptional skills. Of the fourteen experiential learning projects that have completed their first year, 133 students received experiential learning in STEM fields, extension or research.

Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:

At the FY 2019 proposed resource level, NIFA's education programs are expected to sustain the impacts they had in 2018, i.e., direct financial support for about 1,100 undergraduates, 950 graduate, and 400 postdoctoral students. NIFA funded grants will also indirectly benefit about 75,000 students through recruitment/retention, curriculum development and faculty development programs.

Performance Measures:

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 Sustainable Agriculture Research and Education (SARE) project[1].							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Cumulative number	15,702	16,405	17,142	17,904	18,739	19,400	20,200

The number of new drought and disease resistant varieties of crops to reach commercialization.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Number Per Year	4	4	8	10	19	19	19

Number of new bio-based products successfully patented.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Number Per Year	5	9	4	4	5	5	5

Selected Past Accomplishments Toward the Achievement of Outcomes:

- SARE Producer Grants recognize the value of on-the-farm experience in developing solutions to agricultural production challenges, giving farmers the opportunity to conduct their own research. One farmer in Georgia measured the benefits of wildflower plots on his apple orchard, and the effects on pollinator abundance and variety. The results were immediate. The apple production that year surged 30 percent from the previous two years without the wildflower plots. Over 100 native bee species, some ultra-rare with less than three specimens ever found anywhere, were identified at the orchard with help from Georgia Gwinnett College.

- The Wheat Coordinated Agricultural Project has directly benefited the wheat growers and wheat industry by releasing 19 commercial wheat varieties with improved yield, quality and disease resistance. New genomic resources have accelerated the pace of discovery of genetic markers linked to different yield components and their deployment in wheat breeding programs. Results from these studies have been reported in 51 peer-reviewed publications and all the data from the project has been deposited and organized in the public database called T3, facilitating rapid access from the international wheat research community. The project has been essential to coordinate the activities of the major wheat breeding and research programs across the U.S. avoiding unproductive duplications. Finally, the project also initiated the training of a new cohort of 20 graduate students in wheat breeding and molecular genetics, contributing to the education pipeline for agriculture.

- A team of Cornell University researchers improved the efficiency of irrigation by measuring how much water stress can be tolerated without adversely affecting crop yield or quality. They did this by developing a water sensor that is inserted into plants to continuously measure water levels within the plant. These low-cost chips efficiently provide real-time, sensitive water measurements that inform growers on irrigation management. With the sensor, farmers are able to adjust their irrigation schedules to various weather anomalies that affect water transpiration in plants. As a result, farmers may be able to reduce their water-use footprint and increase profits by saving money on their water bills.

[1] The SARE project database was updated this year, adding missing producer plus professional grants from past years and resolving other data integrity issues. This update corrected both past year numbers and future targets.

- Trees killed by bark beetles have, for years, been a source of fuel for forest fires. Now, those very trees are being turned into biofuels and biobased products. The Sustainable Bioenergy Alliance Network of the Rockies (BANR) is a Coordinated Agricultural Project led by Colorado State University. BANR brings together scientists, educators, extension specialists, and industry partners to address the major challenges across feedstock development, production, logistics, and economical and sustainable utilization of insect-killed trees for the production of biofuels and biochar. In Year four of this five year project, the BANR team submitted approximately 30 journal manuscripts for publication, and presented their results at approximately two dozen scientific conferences. The team mapped spruce beetle tree mortality in southwestern Colorado for 2011 and 2015, and completed biomass atlases for the Medicine Bow and Nez Perce BANR case study regions. The Extension and Outreach Team developed and disseminated popular articles, videos and webinars, and delivered workshops for forest landowners, forest industry professionals, logging associations, other stakeholders and the general public. Ten gallons of raw beetle-kill pine biofuel blend-stock was produced by industrial partner Cool Planet Energy Systems in their pilot-scale pyrolysis system, and the process will be optimized to produce 10 cubic meters of biochar in the coming year of the project. Evaluation of the effectiveness and value of biochar as a soil amendment is ongoing.

- Guayule, a shrub grown primarily in southwestern states, contains rubber that has the promise of securing our natural rubber supply. A consortium of industry, academic, and government including Cooper Tire & Rubber Company, Clemson University, Cornell University, PanAridus and the Agricultural Research Service (ARS), successfully completed wheel and road testing and the industry's first ride and drive on 100 percent guayule concept tires. The tires performed significantly better in rolling resistance, wet handling, and wet braking. The new tires had between 6 to 30 percent lower emissions in 10 different life cycle environmental and energy impact categories compared with conventional tires. Four-hundred and fifty tires were produced during the project demonstrating that guayule could secure our natural rubber supply. Partners at ARS completed the most extensive irrigation study of guayule, showing that productivity improved when sub-surface drip irrigation was used versus surface irrigation, making investments in efficient systems more justified. They created a web-based tool to help farmers manage irrigation water to maximize yields and control costs, and sequenced the genome of guayule to facilitate rapid development of the plant as a viable crop.

- Stony Creek Colors, located in Tennessee, recently proved that growing indigo at scale in the southeast is viable. Nearly all denim produced today is dyed with synthetic indigo dye, which is made using harmful petroleum byproducts and toxic chemicals such as benzene, formaldehyde, and cyanide. By replacing this synthetic dye with a bio-based product, not only are toxic reagents and waste products removed from the supply chain, but small and medium sized farmers are able to generate sustainable revenues and keep agricultural land in agriculture. Next summer they will have 30 farmers growing 180 acres of indigo. They have opened a 20,000 square foot processing facility where the indigo dye is produced, and are working with Levi Straus to sell their natural indigo dye for production of a line of jeans. They are also in touch with Sensient, a major company that deals with both natural and synthetic pigments, to explore the possibility of using their indigo dye for various food applications. With their partners, they demonstrated for the first time in over 100 years that natural indigo can be used commercially in a U.S. denim mill.

Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:

- Food security programs work to bring regionally adapted crop cultivars and livestock/breeds to market that contribute to rural economic development and prosperity while enhancing food security. FY 2019 investments will increase food security by improving agricultural production systems at the regional and national levels and by encouraging diversification of agricultural production.

- Near- and mid-term outcomes for sustainable bioenergy and bioproducts programs comprise commercial production at scale of biobased products including, but not limited to, intermediate chemicals, materials, and finished products that replace fossil carbon-based products. As appropriate, biopower, animal feed, and other applications may be used as secondary products, potentially augmenting the economic value and feasibility of the supply chain to increase rural prosperity and advance a sustainable bioeconomy.

Performance Measures:

Number of novel experimental and systematic approaches for investigating the antimicrobial resistance and/or ecology in soil, air, water, in production agriculture, and in aquaculture farms.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Number Per Year	--	5	6	4	9	9	9

Dietary improvements by Expanded Food and Nutrition Education Program (EFNEP) participants (percent of EFNEP participants making dietary improvements).							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Percent	95	95	94	94	94	95	95
Number of Adults Participating in EFNEP.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Number Per Year	121,007	121,704	119,351	118,976	108,216	118,976	97,160
Number of Youth Participating in EFNEP.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Number Per Year	418,961	392,563	377,702	365,369	366,327	366,327	299,156

Selected Past Accomplishments Toward the Achievement of Outcomes:

Funding levels for antimicrobial resistance allowed the program to exceed targets. The results of two example projects illustrating this outcome of the program show that successful mitigation of antimicrobial resistance in food and agriculture takes coordinated research efforts targeting animals and interaction with the environment.

- A team of scientists led by the University of Buffalo are working on management strategies to minimize the spread of antimicrobial resistance through dairy manure. The team recovered a high level of tetracycline from manure, indicating that this antibiotic is more stable in the environment. Students involved in the project are also developing extraction methods for antimicrobial resistant genes. To address outreach activities to producers they are completing development of a five-part Fact Sheet on "Antibiotic Residues in Dairy Manure."

- Kansas State and Texas A & M Universities scientists are evaluating whether use of alternatives to antimicrobial resistance drugs affects antimicrobial resistance in enteric bacterial pathogens. They will also identify and implement adoptable intervention strategies for managing antimicrobial resistance in swine and beef production. Results show that alternatives including metals and essential oils have minimal effects on resistance or on growth and disease in swine and cattle. High levels of metals however, do negatively affect the appetite of cattle. While copper tolerance in E. coli bacteria has been tied to a dependence of a silver resistance gene, evidence indicates that resistance varies depending on the bacterial strain and conditions under which it was grown. They conclude that the copper resistance gene in non-pathogenic E. coli can contribute to the spread of antimicrobial resistance to other pathogens, such as Salmonella, through multidrug resistance plasmids. Use of the products also resulted in co-selection of resistance to the antibiotic tetracycline, perhaps due to acting on plasmids that are present in the pathogen.

These scientists are unraveling the mystery between use of metals like zinc and co-selection for resistance to tetracycline.

EFNEP met targets for dietary improvements and exceeded expectations for youth participation. The reach of EFNEP has shown a declining trend in recent years, reflecting the unmet target for the number of adult participants. The slight increase in EFNEP youth reach and persistent dietary improvements in FY 2017 reflect the continuing impact that national leadership and university partner efforts are having on program outcomes and effectiveness despite rising costs and associated staffing challenges. A new development in FY 2017 was the turnover of one-third of EFNEP coordinators across the country. Continued high turnover of university partners – including university leadership and local paraprofessional staff – is anticipated for the next several years due to retirements.

- A mother of five children was living in a shelter, and struggled to keep food on the table for her children for the entire month before EFNEP. After applying the tools she learned in EFNEP administered by Pennsylvania State University, she had enough food to last her family for a month and save $140.
- A grandmother raising two of her grandchildren was struggling to provide their meals on a limited income. After using the strategies she learned in EFNEP, administered by Ohio State University, she was able to save money and add vegetables to every meal for her family..
- West Virginia State University is making a difference helping low income families, affected by drug addictions, to learn to make smarter, healthier food choices improving their lives and the lives of their families as they overcome addictions through complementary programs. This emerging audience benefits from a weekly class series where they learn the basics of health-conscious spending, proper nutrition, and physical activity, and how what you eat has everything to do with recovery.

Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:

- Since 1969, the Expanded Food and Nutrition Education Program has successfully addressed critical societal concerns by employing paraprofessional staff to influence nutrition and physical activity behaviors of targeted populations; namely low income families, youth, and young children. USDA's Economic Research Service estimates that 17 million U.S. households are food-insecure; EFNEP will continue to use a holistic nutrition educational approach to address the needs of these low-income populations.
- EFNEP national leadership has worked with university program partners over the last several years to develop and implement two new resources for 2018 to increase training opportunities for EFNEP coordinators with continued emphasis on program integrity and accountability. As a result of such efforts, NIFA expects to see improved program reach in FY 2018 and continued high program outcomes. FY 2019 may see reduced program reach due to a proposed decrease in funding.

Performance Measures:

Percent of high consequence samples (APHIS high priority pests Citrus Greening (HLB), Plum Pox Virus (PPV), and Sudden Oak Death (SOD) diseases) processed at the 'confirmed or not detected' confidence levels by the National Plant Diagnostic Network (NPDN) Laboratories.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Percent	-	-	99	90	99.7	99.7	0
The cumulative number of specific animal diseases the National Animal Health Laboratory Network is prepared to detect.							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Cumulative Number	11	12	13	13	14	14	14

Selected Past Accomplishments Toward the Achievement of Outcomes:

- The National Animal Health Laboratory Network (NAHLN) forms part of a nationwide strategy to coordinate the work of all organizations providing animal disease surveillance and testing services. Early detection of foreign animal disease and surge testing during outbreaks requires the highest confidence in the quality of the test results. In 2015, the NAHLN played a major role in detecting, responding to, and controlling a devastating outbreak of avian influenza that resulted in the death of more than 50 million chickens and turkeys and over $3 billion in total losses. This year, the NAHLN, along with American Association of Veterinary Laboratory Diagnosticians, hosted a Quality Management System Training course where 34 laboratories including state universities throughout the country were represented, with 63 participants attending. Through regular training and certification programs, network laboratories are accredited for testing specific diseases, thus helping to protect our nation's food supply.

- The National Plant Diagnostic Network (NPDN) continued to play a critical role in timely detection, diagnosis and reporting of plant pests. In FY 2016-2017 over half a million samples were tested by laboratories associated with the network. These included samples for highly regulated pathogens such as those responsible for citrus greening and sudden oak death. Of those high consequence samples, only one sample was processed outside of the standard confidence level for detection. This improvement over last year demonstrates the quality of work performed by the network.

- Apart from regular diagnostic testing, a NPDN lab in the west played an important role in the effort against citrus greening when it was able to step in at a critical point and test large numbers of the vector (psyllids) to enable early recognition of the bacteria crucial for implementation of mitigation measures. Over the past two years this lab has conducted 13, 441 such tests. The network also continued providing diagnostic support for the new corn disease (bacterial stripe) that was discovered in 2016, working closely with APHIS, and helped to improve producer understanding. Additionally, NPDN members were involved with over 1,700 publications and presentations that reached more than one million people to provide educational resources and prevent outbreaks.

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 2018 House Report on the Agriculture Appropriations Bill and the 2014 Farm Bill. The scope of the final RFAs 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 new science developments. For the most up-to-date AFRI RFA publication schedule, please refer to the NIFA website at: https://www.nifa.usda.gov/afri-request-applications.

The anticipated RFA publication dates are provided for Other Competitive Programs. The Expected FY 2019 RFA Publication Dates for AFRI are 11/1/2018 through 2/28/2019. Funding amounts for AFRI reflect those amounts of appropriated funds anticipated for programs including interagency programs and legislative set-asides for programs such as the Small Business Innovation Research program, except where noted otherwise.

FY 2019 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 (RFAs) with the Farm Bill priorities are described in the following document.

Through AFRI, NIFA seeks to ensure our nation's food security by addressing the challenges that U.S. agriculture faces, promoting America's global competitive edge in agricultural exports, and supporting the country's investments in agricultural research, education, and extension. A major food systems challenge is the need to substantially increase food production for a burgeoning global population, projected to approach ten billion in just three decades. Much of the increased food production is expected to come from the U.S. and represents a tremendous economic opportunity for the U.S. agricultural sector and rural communities, while ensuring global nutritional security. Increased domestic and global production of food, however, must occur on diminishing arable land and increasingly variable and unpredictable water availability due to extreme weather events. Additionally, American agriculture will need to maintain its global competitive edge, particularly over nations such as China and Brazil whose investments in agricultural research and development have recently outpaced that of the U.S. A well-trained workforce and next generation of researchers are needed to meet these challenges posed by the ever-changing production agriculture landscape. The generation of new knowledge critical to advancing food and agriculture will require increased investment at academic institutions and non-academic research organizations in America.

AFRI supports the creation, delivery, and application of new knowledge in a broad range of agriculturally relevant areas, including sustainable food production systems, bioenergy production, resiliency of agriculture to impacts of climate variability, water management, natural resources and the environment, rural development, human nutrition, and food safety. These efforts are addressed through the three major components of AFRI including the Foundational and Applied Science Program, the Sustainable Agricultural Systems Program, and the Education and Workforce Development Program. Research, education, and extension work is supported by AFRI in the six priority areas established in the Farm Bill cited above.

Fundamental and applied research that aligns with the six Farm Bill priority areas is supported by the AFRI Foundational and Applied Science Program. The Foundational and Applied Science Program also funds the Critical Agricultural Research and Extension (CARE) program area, which is intended to result in

implementable solutions to critical problems faced by food producers and consumers, along with the Exploratory Research Program, which supports development of innovative knowledge to position U.S. agriculture at the global forefront.

Increased funding for the Foundational and Applied Science Program will increase the funding rate (i.e., the number of grants awarded), especially for new investigators, which is essential for continued development of the next generation of scientists that is critical for sustaining a vigorous research enterprise in agricultural sciences. Discoveries made through research supported by the Foundational and Applied Science Program, in turn, provide the base of knowledge required for subsequent transformative future research, extension, and education programs at NIFA (especially those in the AFRI Sustainable Agricultural Systems Program) that aim to solve applied problems in the food and agricultural sciences. Additional high-priority science will be supported in collaboration with other Federal science agencies. These interagency programs are aligned with NIFA's relevant programs aimed at developing the foundational knowledge needed to address the societal challenges. Thus, the Foundational and Applied Science Program is both complementary and essential to the success of the Sustainable Agricultural Systems Program.

Through AFRI grants, NIFA will support the FY 2019 Administration Research and Development Budget Priorities for ensuring American prosperity.

Agriculture and Food Research Initiative Requests for Applications

In FY 2019, the AFRI program will issue three Requests for Applications (RFA) to solicit new grant awards; one RFA will be issued for each of the Foundational and Applied Science, Sustainable Agricultural Systems, and Education and Workforce Development programs. All three of these RFAs collectively address the six AFRI priority areas established in the Farm Bill Priority. All AFRI grant awards will be new in FY 2019 because funding commitments to all remaining continuation awards was completed in FY 2018.

FY 2019 President's Budget	
Program	**New Grant Awards**
Agriculture and Food Research Initiative	$375,000,000

The NIFA 2019 budget proposes to support the AFRI program at $375,000,000, which includes:

- Increased support for Food and Agriculture Cyberinformatics and Tools (FACT) to be included in the Foundational and Applied Science Program;
- Increased investment in the Sustainable Agricultural Systems Program, initiated in FY 2018, to support innovative, transformative, integrated, and transdisciplinary systems-level approaches to improve production systems for food, feed, fiber and biomass feedstock, to address challenges impacting agricultural production systems;
- Increased investments in the Education and Workforce Development program for preparing agricultural workforce for jobs of the future through K-14 curricula development; and
- Increased support for the Critical Agricultural Research and Extension (CARE) and Exploratory Research program areas, initiated in FY 2014, as part of the Foundational and Applied Science Program;

- Additional support for research on water for agriculture, for combating antimicrobial resistance, and for emerging technologies;
- Continued support for high priority areas including production agriculture, food security, adaptation of crop and livestock agriculture to climate variability, food safety, sustainable bioenergy, food and agricultural microbiomes, pollinator health, and nutrition for improved health;
- Continued fostering of interagency collaborations to leverage greater investment in agriculturally-relevant areas of science, and to attract new communities of scientists to address challenging agricultural issues.

AFRI Requests for Applications (RFA):

Foundational and Applied Science RFA | The AFRI Foundational and Applied Science RFA is organized by, and directly aligns with, the six priority areas established in the Farm Bill. The Foundational and Applied Science Program priorities are designed to include the scope of topics listed within each of the six AFRI priority areas established in the Farm Bill. NIFA will invest $244,049,000 of appropriated AFRI funds to support *new* grants in the Foundational and Applied Science Program, as well as interagency programs. These investments will allow enhanced focus in promising new areas of agricultural science such as maximizing value of data-driven research in agricultural science under the Food and Agriculture Cyberinformatics and Tools initiative. NIFA proposes to continue increased investments in the plant and animal breeding program areas that support classical breeding efforts to improve crop and animal productivity, local adaptation of cultivars and breeds, and development of public cultivars. Additional areas of investments are aligned with the FY 2019 Administration Research and Development Budget Priorities and the recommendations of the Task Force on Agriculture and Rural Prosperity. To ensure American prosperity, additional investments will be made in emerging technologies such as gene editing for agricultural applications, innovations in food manufacturing, autonomous systems and machine learning for agricultural applications such as robotics to address labor shortages in farming, and agriculture-based bioproducts, including sustainable sources of bioenergy. Enhanced investments will also foster research on water for agriculture; on the microbiome of foods, food animals, plants, and soils and on strategies to mitigate antimicrobial resistance.

Request for Applications (RFA)	New Grant Awards
Foundational and Applied Science Program	$244,049,000

Sustainable Agricultural Systems RFA | In FY 2019, NIFA will invest $98,901,000 in the AFRI Sustainable Agricultural Systems Program, which will build on advances made in research, education, and extension outcomes through the previous AFRI investments, and will address the challenges to agricultural systems comprehensively and collectively. This integration will enable NIFA's goal of advancing the convergence of agricultural and food sciences with engineering, social sciences, nanotechnology, computational sciences, and advanced manufacturing to generate new scientific discoveries, new products, new markets and, consequently, new high-skill jobs. These systems-level projects will marshal the many facets of the agricultural system, from farms to supply-chain businesses to consumers, to transform the way we produce, process, transport, and consume food. In doing so, it will address interrelated challenges of agricultural productivity, water availability, food safety, environmental resilience, feedstock needs of the bioeconomy, and nutritional security. Through investments in technology, data, and innovation, NIFA will catalyze transformative changes throughout U.S. agricultural systems and contribute to the following goals:

- Increase profitability in agriculture through reducing inputs, enhancing productivity, and reducing losses due to environmental and biological stresses, including pests and diseases;

- Foster economic development and prosperity in rural America by catalyzing production of high-value biobased chemicals and other products using agricultural feedstocks; and
- Enhance rural prosperity and health through advances in nutritional and human sciences, and ensuring access to affordable, safe and nutritious food to sustain healthy lifestyles.

Investments in systems-level projects under the Sustainable Agricultural Systems Program will require larger support, up to $10 million per project, to generate transformative new scientific discoveries, new products, and new markets that will provide high-skill jobs and ensure America's global leadership in agriculture.

Request for Applications (RFA)	New Grant Awards
Sustainable Agricultural Systems Program	$98,901,000

Education and Workforce Development RFA | NIFA will invest $32,050,000 of appropriated AFRI funding in Education and Workforce Development for education and training grants that focus on further enhancing the three distinct components of the pipeline for developing the workforce in the food and agricultural sciences: 1) enhancing agricultural workforce development through institutional grants to provide K-14 teachers and administrators with increased knowledge of food and agricultural sciences, and help them develop improved curricula to train agricultural workforce for the future; 2) developing pathways by providing undergraduates in agriculture and allied disciplines with the applied technical and leadership skills required for careers in agricultural sectors and farming enterprises or in graduate programs; and 3) advancing science to support graduate and post-graduate education in agriculture and related disciplines through pre-and post-doctoral fellowships. This investment will address the projected shortfalls in availability of qualified agricultural workers within the U.S.

Request for Applications (RFA)	New Grant Awards
Education and Workforce Development Program	$32,050,000

Table 1. Funding allocations by Request for Applications for the FY 2019 President's Budget for the Agriculture and Food Research Initiative (AFRI).

FY 2019 President's Budget	
Program	**New Grant Awards**
Agriculture and Food Research Initiative	$375,000,000
Request for Applications (RFA)	
Foundational and Applied Science Program[1]	$244,049,000
Sustainable Agricultural Systems Program	$98,901,000
Education and Workforce Development Program	$32,050,000

[1] Funding for interagency programs is included within the Foundational and Applied Science Program, as appropriate.

Table 2. Estimated funding allocations by Farm Bill Priority Area for the FY 2019 President's Budget for the Agriculture and Food Research Initiative.

FY 2019 President's Budget				
Farm Bill Priority Area	Agriculture and Food Research Initiative	**RFA Topic Area**		
		Foundational and Applied Science	Sustainable Agricultural Systems	Education and Workforce Development
A. Plant Health and Production and Plant Products	30%	29%	30%	27%
B. Animal Health and Production and Animal Products	24%	23%	24%	21%
C. Food Safety, Nutrition, and Health	15%	15%	15%	20%
D. Bioenergy, Natural Resources, and Environment	10%	11%	11%	10%
E. Agriculture Systems and Technology	10%	10%	8%	12%
F. Agriculture Economics and Rural Communities	11%	12%	12%	10%

Table 3. Funding allocations by Request for Applications for FY 2015 to FY 2017 appropriations, FY 2018 Annualized Continuing Resolution (CR), and FY 2019 President's Budget for the Agriculture and Food Research Initiative (AFRI).

AFRI Program Areas	2015 Enacted	2016 Enacted	2017 Enacted	2018 Annualized CR	2019 President's Budget
Sustainable Agricultural Systems Program	---	---	---	76,923,000	98,901,000
Sustainable Bioenergy Challenge Area	36,682,000	27,566,000	27,963,000	8, 269,000[1]	---
Climate Variability and Change Challenge Area	9,862,000	15,312,000	15,492,000	---[1]	---
Water for Food Production Systems Challenge Area	56,166,000	69,917,000	61,497,000	17,052,000[1]	---
Childhood Obesity Prevention Challenge Area	22,870,000	25,049,000	21,893,000	8,676,000[1]	---
Food Safety Challenge Area	23,839,000	14,309,000	17,198,000	4,910,000[1]	---
SUBTOTAL	***149,419,000***	***152,154,000***	144,043,000	***115,830,000***	***98,901,000***
Foundational and Applied Science Program	158,543,000	177,029,000	210,105,000	231,286,000	244,049,000
Education and Workforce Development Program	17,038,000	20,818,000	20,852,000	25,337,000	32,050,000
Total	***325,000,000***	***350,000,000***	***375,000,000***	***372,453,000***	***375,000,000***

[1] Funding for Challenge Areas in FY 2018 is for existing grants only.

Other Competitive Programs

Non-AFRI competitive programs included in the Congressional Directive and/or Farm bill language are listed below. FY 2018 estimates for discretionary funding are based on the FY 2018 Annualized Continuing Resolution (CR). Programs funded by mandatory funding are included based on the Agricultural Act of 2014 (2014 Farm Bill), as adjusted for FY 2018 sequestration.

Program	Authority	Scope of RFA and Budget Justification	2018 Estimate ($000s)	2019 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 2018 RFAs will identify four regional centers and one national coordination center through a competitive rigorous review process. The centers will emphasize projects to help farmers and ranchers to adopt practices that are productive, profitable, environmentally sound, and good to communities. The will focus on projects submitted by farmers and ranchers as well as limited support to innovative projects and graduate education. Grants awarded by the four regional administrative councils will support projects that address crop and livestock production and marketing, stewardship of private lands, rural economy, 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. The FY 2019 RFA will continue funding the centers for competitively reviewed projects to help farmer, ranchers, and foresters to adopt sustainable agricultural practices.	$26,817	$19,009	2018: February 1, 2018 2019: February 1, 2019
Methyl Bromide	7 U.S.C. 7626	The FY 2018 RFA focuses on supporting the discovery and implementation of practical pest management alternatives for commodities and uses affected by the methyl bromide phase-out. This program will request integrated, extension-only, and state-of-the-commodity projects that use a systems approach to evaluate and	$1,986	$0	2018: November 13, 2017

Program	Authority	Scope of RFA and Budget Justification	2018 Estimate ($000s)	2019 Budget ($000s)	RFA Dates
		deliver economically viable short- to medium-term solutions for all commodities impacted by the loss of methyl bromide. The President has not requested funding for this program FY 2019.			
Minor Crop Pest Management Program – Interregional Research Project #4	7 U.S.C. 3157 (Formerly 7 U.S.C. 450i(e). 7 U.S.C. 450i was transferred to 7 U.S.C. 3157)	The FY 2018 RFA will focus on funding projects that provide safe, effective, and economical pest management solutions for minor agricultural uses and specialty crops. NIFA anticipates funding five projects: one to establish a national headquarters and four to establish geographically-based regional IR-4 centers (North Central, Northeastern, Southern, and Western) The FY 2019 RFA will focus on providing safe, effective, and economical pest management solutions for minor agricultural uses and specialty crops. NIFA anticipates funding five continuation awards: one for a national headquarters and four to fund the existing regional IR-4 centers, three of which will include analytical chemistry programs.	$11,832	$11,832	2018: April 15, 2018 2019: January 1, 2019
Organic Transition Program	7 U.S.C. 7626	The FY 2018 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 will focus 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. The program also supports the development of cultural practices and other allowable alternatives to substances	$3,973	$0	2018: January 8, 2018

Program	Authority	Scope of RFA and Budget Justification	2018 Estimate ($000s)	2019 Budget ($000s)	RFA Dates
		recommended for removal from NO"'s National List of Allowed and Prohibited substances. The President has not requested funding for this program in FY 2019.			
Crop Protection/Pest Management	7 U.S.C. 7626	The FY 2018 RFA will focus on integrated pest management (IPM) projects that respond to pest management challenges with coordinated regional and national research and extension programs and that promote further development and use of IPM approaches. The program will develop projects and programs to 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. In FY 2018 only the Extension Implementation program area and the Regional Coordination program area will be funded. The FY 2019 RFA will continue to support IPM projects in the Extension Implementation program area and the Regional Coordination program area.	$19,865	$13,037	2018: February 5, 2018 2019: February 5, 2019

Program	Authority	Scope of RFA and Budget Justification	2018 Estimate ($000s)	2019 Budget ($000s)	RFA Dates
Specialty Crop Research Initiative	7 U.S.C. 7632	The FY 2018 and FY 2019 SCRI RFAs will continue to give priority to projects that are multistate, multi-institutional, or trans-disciplinary; and include explicit mechanisms to communicate results to producers and the public. It will also continue to require that applications address one of the five legislatively mandated focus areas. The Emergency Citrus Research and Extension Program RFA will again focus on Huanglongbing (HLB, citrus greening) and the insect that vectors the pathogen causing this disease. Farm Bill funding for Citrus Research and Extension Program expires in 2018.	$74,720	$80,000	SCRI 2018: September 22, 2017 Citrus 2018: March 26, 2018 SCRI 2019: October 1, 2018
Beginning Farmer and Rancher Development Program	7 U.S.C. 3319f(c)(1)	The 2018 RFA will continue to focus on education and training through standard grants and educational enhancement grants with the same range of topics. At least five percent of funds will focus on training for veteran Beginning Farmers and Ranchers (BFRs) BFR's, 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). Farm Bill funding for this program expires in 2018.	$18,680	$0	2018: December 1, 2017
Organic Agriculture Research and Extension Initiative	7 U.S.C. 5925b(a)	The FY2018 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. Focus will be on the eight legislatively-defined goals: (1) 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	$18,680	$0	2018: February 22, 2018

Program	Authority	Scope of RFA and Budget Justification	2018 Estimate ($000s)	2019 Budget ($000s)	RFA Dates
		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. Farm Bill funding for this program expires in 2018.			
Food Insecurity Nutrition Incentive Program	7 U.S.C. 7517	The FY 2018 RFA will focus on evaluating projects intended to increase the purchase of fruits and vegetables by low-income consumers participating in Supplemental Nutrition Assistance Program (SNAP) by providing incentives at the point of purchase. The program will test strategies that could contribute to our understanding of how best to increase the purchase of fruits and vegetables by SNAP participants to inform future efforts, and develop effective and efficient benefit redemption technologies. Farm Bill funding for this program expires in 2018.	$23,350	$0	2018: September 22, 2017