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## **Agency-Wide**

### **PURPOSE STATEMENT**

Section 7511(f)(2) of the Food, Conservation, and Energy Act of 2008 (FCEA) amended the Department of Agriculture Reorganization Act of 1994 (7 U.S.C. 6971) by establishing 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), as amended (FCEA), Agricultural Act of 2014 (2014 Farm Bill, Pub. L. 113-79), and the Agriculture Improvement Act of 2018 (2018 Farm Bill, Pub. L. 115-334). 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. 115-334); 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:

*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; 2014 Farm Bill (Pub. L. 113-79); and the 2018 Farm Bill (Pub. L. 115-334).

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.

#### ***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 Section 7604 of Pub. L. 115-334; and subject to provisions of Pub. L. 96-374; Pub. L. 97-98; Pub. L. 99-198; FACT Act; FAIR Act; Section 7101 of Pub. L. 113-79; and Section 7111 of Pub. L. 115-334.

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 7604 of the 2018 Farm Bill (Pub. L. 115-334) amended the McIntire-Stennis Act to include 1994 Institutions (as defined in section 532 of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note; Pub. L. 103-382)) that offer an associate's degree or a baccalaureate degree in forestry.

Section 7101 of the 2014 Farm Bill (Pub. L. 113-79) which allowed 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 remained in effect until September 30, 2018. In accordance with Section 7102 of the 2018 Farm Bill, cooperating forestry schools will no longer have to opt out of that status to be considered as Non-Land-Grant Colleges of Agriculture (NLGCAs) because the definition of a NLGCA no longer excludes the cooperating forestry schools.

***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; Section 7129 of the 2014 Farm Bill (Pub. L. 113-79), and Section 7115 of the 2018 Farm Bill 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 the 2014 Farm Bill (Pub. L. 113-79) makes Central State University eligible to receive funds under this program beginning in fiscal year 2016 and Section 7115 of the 2018 Farm Bill establishes a minimum additional funding amount for eligible entities in the fiscal years following certain eligible entities' qualification should the funding level increase by \$3 million. If there are insufficient funds appropriated for Section 1445 (or Section 1444) to continue the minimum additional funding amounts for eligible institutions, the provision provides for a reduction in allocations made to eligible institutions. 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, unless the funding amount is increased by \$3 million in particular fiscal years, in which case Section 7115 of the 2018 Farm Bill includes additional directives regarding allocation of that increase:

- 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.

#### ***Animal Health and Disease Research***

Section 1433 of NARETPA (7 U.S.C. 3195, as amended by Pub. L. 113-79 and 115-334), 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 the 2014 Farm Bill (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 the 2014 Farm Bill (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.

#### ***Special 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*

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.

#### ***Alfalfa Seed and Alfalfa Forage Systems Program***

Pursuant to Section 1672 of FACT Act (7 U.S.C. 5925) and as amended by the 2018 Farm Bill (Pub. L. 115-334), supports research for the purpose of studying improvements in alfalfa and forage yields, biomass and persistence, pest pressures, the bioenergy potential of alfalfa seed and other alfalfa forages, and systems to reduce losses during harvest and storage.

#### ***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.

#### ***Agriculture and Food Research Initiative***

Subsection (b) of the 1965 Act (7 U.S.C. 3157) as amended by section 7406 of FCEA (Pub. L. 110-246), section 7404 of the 2014 Farm Bill (Pub. L. 113-79), and section 7504 of the 2018 Farm Bill (Pub. L. 115-334) 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:

- Plant health and production and plant products;
- Animal health and production and animal products;
- Food safety, nutrition, and health;
- Bioenergy, natural resources, and environment;
- Agriculture systems and technology; and
- 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 the 2014 Farm Bill (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.

#### ***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. 3341 authorizes 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.

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

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.

### ***1994 Institutions Research***

The 1994 Act (7 U.S.C. 301 note), as amended by the 2014 Farm Bill (Pub. L. 113-79) and the 2018 Farm Bill (Pub. L. 115-334), 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 the 2014 Farm Bill (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.

### ***Farm Business Management and Benchmarking Program***

The FACT Act (7 U.S.C. 5925f), as amended by Section 7211 of the 2018 Farm Bill (Pub. L. 115-334) authorizes a competitive program to make research and extension grants for the purpose of improving the farm management knowledge and skills of agricultural producers by maintaining and expanding a national, publicly available farm financial management database to support improved farm management.

### ***Sun Grant Program***

Section 7526 of FCEA (7 U.S.C. 8114), as amended by section 7516 of the 2014 Farm Bill (Pub. L. 113-79) and reauthorized by section 7414 of the 2018 Farm Bill (Pub. L. 115-334), 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.

### ***Research Equipment Grants Program***

Section 1462A of the National Agricultural Research, Extension and Teaching Policy Act of 1977 (7 U.S.C. 3310), as added by section 7126 of the 2018 Farm Bill (Pub. L. 115-334) established this program for competitive grants to eligible institutions for the acquisition of special purpose scientific research equipment for use in the food and agricultural sciences programs of eligible institutions. Grants may not exceed \$500,000.

### ***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 the 2014 Farm Bill (Pub. L. 113-79) defined eligibility for this program and a certification process was implemented accordingly. Section 7102 of the 2018 Farm Bill (Pub. L. 115-334) amended the definition of NLGCA to clarify that eligible entities must offer study of agricultural sciences, forestry, or both in any of 32 specified areas of study or any other area determined appropriate by the Secretary.

### ***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, Department of Homeland Security facility security services, and General Services Administration rent.

### ***Emergency Citrus Disease Research and Extension Program***

Section 12605 of the 2018 Farm Bill (Pub. L. 115-334) establishes the Citrus Trust Fund and provides \$25 million, available until expended, for each of the FYs 2019 through 2023, to carry out the Emergency Citrus Disease Research and Extension (ECDRE) Program in section 412 of AREERA (7 U.S.C. 7632). Funding is for a competitive research and extension grant program to combat diseases of citrus by 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. Also the ECDRE program combats citrus diseases by supporting 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 section 1408A of the NARETPA (7 U.S. C. 3123a).

### ***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 supports competitive 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.

*Higher Education Multicultural Scholars Program*

Pursuant to section 1417(b)(5) of NARETPA provides competitive grants to institutions for scholarships that attract and educate more students from groups currently underrepresented in the food and agricultural sciences for careers in agriscience and agribusiness.

*Higher Education National Needs Graduate Fellowship Grants*

Pursuant to section 1417(b)(6) of NARETPA are competitive awards to provide 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 new graduate students for critical food and agricultural scientific positions.

*Secondary Education, Two-year Postsecondary Education, and Agriculture in the K-12 Classroom*

This 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.

*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 the 2014 Farm Bill (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.

*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 agricultural science 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 of NARETPA 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).

*Native American Institutions Endowment Fund*

The program, 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.

*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 2014 Farm Bill (Pub. L. 113-79) 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. Section 7502 of the 2018 Farm Bill (Pub. L. 115-334) amended section 532 of the 1994 Act by updating eligible institutions' names and adding Red Lake Nation College.

*Alaska Native Serving and Native Hawaiian-Serving Institutions Education Grants*

The 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 and Agriculture and Food Science Facilities and Equipment 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.

*Veterinary Medicine Loan Repayment Program*

The 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. Section 7105 of FCEA amended section 1415A of NARETPA (7 U.S.C. 3151a) 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.

*Veterinary Services Grant Program*

The 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. Section 7106 of the 2018 Farm Bill (Pub. L. 115-334) amended section 1415B of NARETPA (7 U.S.C. 3151b) to give priority to grant awards for programs or activities with a focus on the practice of food animal medicine.

***1890 Institutions Centers of Excellence***

The Centers are designed to supply the country with a globally diverse workforce and support critical global development needs, thereby supporting U.S. national security, address trans-boundary research and education challenges including climate change, conservation, biodiversity and development/strengthening of teaching curricula and student recruitment. The 1890 Universities have a long history of working on these topics but the small size of their individual programs and lack of sufficient investment in infrastructure have hampered their contributions. These Centers help the institutions increase their effectiveness in serving the nation. Section 1673 of the Food, Agriculture, Conservation and Trade Act of 1990, as amended by Section 7213 of the 2018 Farm Bill (7 U.S.C. 5926) authorizes funding for the recognition of Centers of Excellence at 1890 Institutions to focus on Student Success and Workforce Development; Nutrition, Health, Wellness, and Quality of Life; Farming Systems, Rural Prosperity, and Economic Sustainability; Global Food Security and Defense; Natural Resources, Energy, and Environment; and Emerging Technologies. Section 752 of the Further Consolidated Appropriations Act, 2020 provides funds for NIFA grants to the 1890 Institutions to support the Centers of Excellence.

***Scholarships for Students at 1890 Institutions***

Section 1446 of the 2018 Farm Bill (Pub. L. 115-334) provides mandatory funding in the enacted amount of \$40 million, until expended, to carry out this program. The purpose of the program is to award grants to each of the eligible 1890 Land-Grant Institution, including Tuskegee University. 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. Section 7129 of the 2014 Farm Bill (Pub. L. 113-79) designates Central State University as an eligible 1890 Land-Grant Institution. The grants are for awarding scholarships to individuals who have been accepted for admission to such college or university; will be enrolled at such college or university not later than one year after the date of such acceptance; and intend to pursue a career in the food and agricultural sciences, including a career in agribusiness, energy and renewable fuels; or financial management. The Further Consolidated Appropriations Act, 2020 provides an additional \$5 million in discretionary funds for the program.

### *New Beginnings for Tribal Students*

Section 1450 of the National Agricultural Research, Extension and Teaching Policy Act of 1977 (7 U.S.C. 3222e), as added by section 7120 of the 2018 Farm Bill (Pub. L. 115-334) established this program to make competitive grants to land-grant colleges and universities to provide identifiable support specifically targeted for Tribal students, through recruiting; tuition and related fees; experiential learning; and student services (including tutoring; counseling; academic advising; and other student services that would increase the retention and graduation rate of Tribal students enrolled at the land-grant college or university, as determined by the Secretary). All grantees are required to provide a 100 percent match in the form of cash or in-kind contributions. The program includes an annual limitation of \$500,000 that may be awarded to Institutions located in the same State. Section 773 of the Further Consolidated Appropriations Act, 2020 provides \$5 million for the program.

### *Agricultural Genome to Phenome Initiative*

Section 1671 of the Food, Agriculture, Conservation and Trade Act of 1990 (7 U.S.C. 5924), as amended by section 7208 of the 2018 Farm Bill (Pub. L. 115-334) authorizes a program for competitive awards to build on genomic research and expand knowledge concerning genomes and phenomes of crops and animals of importance to the agriculture sector of the United States. Section 774 of the Further Consolidated Appropriations Act, 2020 provides \$1 million for the program.

### **Extension Activities**

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

### *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.

#### ***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. Section 7609 of the 2018 Farm Bill provided 1994 Institutions as eligible for certain competitively awarded Smith-Lever 3(d) programs (see below). 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. Section 7214 of the 2018 Farm Bill reauthorizes appropriations through fiscal year 2023 for demonstration grants to provide agricultural education and assistance to individuals with disabilities engaged in farming or farm-related occupations. It adds language to clarify that this provision applies to veterans engaged in farming or farm-related occupations, or who are pursuing new farming opportunities.

*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. Section 7609 of the 2018 Farm Bill provided 1994 Institutions as eligible to receive funds from this program.

*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. Section 7609 of the 2018 Farm Bill provided 1994 Institutions as eligible to receive funds from this program.

*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.

***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 the 2014 Farm Bill (Pub. L. 113-79) designates Central State University as an eligible 1890 Land-Grant Institution and Section 7115 of the 2018 Farm Bill establishes a minimum additional funding amount for eligible entities in the fiscal years following certain eligible entities' qualification should the funding level increase by \$3 million. If there are insufficient funds appropriated for Section 1444 (or Section 1445) to continue the minimum additional funding amounts for eligible institutions, the provision provides for a reduction in allocations made to eligible institutions. 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, unless the funding amount is increased by \$3 million in particular fiscal years, in which case Section 7115 of the 2018 Farm Bill includes additional directives regarding allocation of that increase:

- 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. Section 7114 of the 2018 Farm Bill amends section 1444(a) of NARETPA to allow 1890 colleges to carry forward to the succeeding fiscal year 100 percent of the funds they receive under this program in a given fiscal year.

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.

***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 eligible 1890 land-grant colleges, including Tuskegee University, West Virginia State University, and Central State University (per Section 7129 of the 2014 Farm Bill (Pub. L. 113-79)).

***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.

***Rural Health and Safety Education***

Rural Health and Safety Education Act of 1990, section 2390 of the FACT Act (7 U.S.C. 2662). Per authorizing language, this program competitively awards projects that focus on issues related to 1) individual and family health education; 2) farm safety education; and/or 3) rural health leadership development. Per section 6101 of the 2018 Farm Bill (115-334), priority is to be given to an applicant that will use the grant for substance use disorder education and treatment and the prevention of substance use disorder. 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)).

***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)***

Funds are appropriated under the administration line to support the AITC program administered under 7 U.S.C 3152(j). 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.

***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 2014 Farm Bill (Pub. L. 113-79) amended section 532 of the 1994 Act by adding College of the Muscogee Nation and Keweenaw Bay Ojibwa Community College, effective October 2014. Section 7502 of the 2018 Farm Bill (Pub. L. 115-334) amended section 532 of the 1994 Act by updating eligible institutions' names and adding Red Lake Nation College.

***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.

***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.

***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. Section 7301 of the 2018 Farm Bill strikes the prohibition on funding that restricts USDA from providing additional grant funding once an entity has received three years of grant funding.

***Food and Agricultural Service Learning Program (FASLP)***

Section 413 of AREERA authorizes this program. FASLP awards competitive grants to increase the knowledge of agriculture and improve the nutritional health of children; and to bring together stakeholders from the distinct parts of the food system to increase the capacity for food, garden, and nutrition education within host organizations or entities, such as school cafeterias and classrooms, while fostering higher levels of community engagement between farms and school systems. The initiative is part of a broader effort to not only increase access to school meals for low-income children, but also to dramatically improve their quality.

***Farm and Ranch Stress Assistance Network (FRSAN)***

Section 7522 of the Food, Conservation, and Energy Act of 2008, 7 U.S.C. 5936, authorizes competitive grants to establish a FRSAN that provides stress assistance programs to individuals who are engaged in farming, ranching, and other agriculture-related occupations. Funds will be used to initiate, expand, or sustain programs that provide professional agricultural behavioral health counseling and referral or other forms of assistance as necessary through farm telephone helplines and websites; and training programs and workshops for a) advocates for individuals who are engaged in farming, ranching, and other occupations relating to agriculture; and b) other individuals and entities that may assist individuals who are engaged in farming, ranching, and other occupations relating to agriculture; and are in crisis. Funds also may be used in the dissemination of information and materials.

***Enhancing Agricultural Opportunities for Military Veterans Competitive Grants Program***

Section 748 of the Consolidated Appropriations Act, 2020 provides funds for competitive grants to non-profit organizations to increase the number of military veterans gaining knowledge and skills through

comprehensive, hands-on and immersive model farm and ranch programs offered regionally that lead to successful careers in the food and agricultural sector. The program encourages the development of training opportunities specifically designed for military veterans. The projects will offer onsite, hands-on training and classroom education leading to a comprehensive understanding of successful farm and ranch operations and management practices. Projects also may offer workforce readiness and employment prospects for service-disabled veterans.

***Beginning Farmer and Rancher Development Program***

Section 12301 of the 2018 Farm Bill makes available the enacted amount of \$15 million for FYs 2019 and 2020, \$17.5 million for FY 2021, \$20 million for FY 2022, and \$25 million for FY 2023 and each year thereafter to carry out the program. In addition to the mandatory funds provided under the 2018 Farm Bill, Section 772 of the Further Consolidated Appropriations Act, 2020, provides \$2.5 million for the program. The purpose of this competitive program is to support the nation’s beginning farmers and ranchers by making competitive grants to new and established local and regional training, education, outreach, and technical assistance initiatives that address the needs of beginning farmers and ranchers. To be eligible for a grant under this authority, an applicant must be a collaborative State, tribal, local, or regionally-based network or partnership of public or private entities which may include a State cooperative extension service; a Federal, state, or tribal agency; a community-based or non-governmental organization; a college or university (including an institution offering associate’s degree) or a foundation maintained by a college or university; or any other appropriate partner.

All grantees are required to provide a 25 percent match in the form of cash or in-kind contributions. The maximum amount of an award is \$250,000 per year and the maximum project period is three years. In accordance with Section 12301 of the 2018 Farm Bill, 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.

***Gus Schumacher Nutrition Incentive Program (formerly Food Insecurity Nutrition Incentive)***

Section 4205 of the 2018 Farm Bill, which amends section 4405 of the Food, Conservation, and Energy Act of 2008 (7 U.S.C. 7517) authorizes the Gus Schumacher 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 was made available in the enacted amount of \$45 million for FY 2019, \$48 million for FYs 2020 and 2021, \$53 million for FY 2022, and \$56 million for FY 2023 and each year thereafter to carry out the program.

***Agriculture Risk Management Education Program***

Section 524(a) of the Federal Crop Insurance Act (7 U.S.C. 1524(a)), as amended by section 133 of the Agricultural Risk Protection Act of 2000 and section 11125 of the 2018 Farm Bill (Pub. L. 115-334), establishes a competitive grants program for educating agricultural producers and providing technical assistance to agricultural producers on a full range of farm viability and risk management activities.

These activities include futures, options, agricultural trade options, crop insurance, business planning, enterprise analysis, transfer and succession planning, management coaching, market assessment, cash flow analysis, cash forward contracting, debt reduction, production diversification, farm resources risk reduction, farm financial benchmarking, conservation activities, 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 \$10 million is to be made available annually for competitive awards.

### **Integrated Activities**

The following programs are included under the integrated activities account:

#### ***Section 406***

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.

#### ***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.

#### ***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.

#### ***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.

#### ***Regional Rural Development Centers***

Section 2(c)(1)(B) of the 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.

#### ***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.

#### ***Organic Agriculture Research and Extension Initiative***

Section 7210 of the 2018 Farm Bill (Pub. L. 115-334) amended section 1672B of the FACT Act to provide mandatory funding in the enacted amount of \$20 million for FYs 2019 and 2020, \$25 million for fiscal year 2021, \$30 million for FY 2022, and \$50 million for FY 2023 and each year thereafter for the Organic Agriculture 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.

#### ***Specialty Crop Research Initiative***

Reauthorized by Section 7305 of the 2018 Farm Bill (Pub L. 115-334) 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:

- Research in plant breeding, genetics, and genomics to improve crop characteristics;
- Efforts to identify and address threats from pests and diseases, including threats to pollinators;
- Efforts to improve production efficiency, productivity, and profitability over the long term;
- New innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and
- 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.

Section 7306 of the 2014 Farm Bill (Pub. L. 113-79) 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.

### **Urban, Indoor, and Other Emerging Agricultural Production Research, Education, and Extension Initiative**

Section 7212 of the 2018 Farm Bill (Pub. L. 115-334) amends section 1672 of the FACT Act (Pub. L. 101-624) to establish a competitive grants program to support research, education, and extension activities to facilitate the development of urban, indoor, and other emerging agricultural production, harvesting, transportation, aggregation, packaging, distribution, and markets. Activities are to include assessing and developing strategies to remediate contaminated sites; determining and developing the best production management and integrated pest management practices; identifying and promoting the horticultural, social, and economic factors that contribute to the successful urban, indoor, and other emerging agricultural production; analyzing the means by which new agricultural sites are determined, including an evaluation of soil quality condition of a building, or local community needs; exploring new technologies that minimize energy, lighting systems, water, and other inputs for increased food production; examining building material efficiencies and structural upgrades for the purpose of optimizing growth of agricultural products; developing new crop varieties and agricultural products to connect to new markets; or examining the impacts of crop exposure to urban elements on environmental quality and food safety. Mandatory funding in the enacted amount of \$10 million, until expended, is available to carry out the program.

### **Community Food Projects**

Section 25 of the Food Stamp Act of 1977 (7 U.S.C. 2034), as amended by the 2014 Farm Bill 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 annually in the amount of \$5 million.

For NIFA program coordination and planning are carried out by staff located in the Kansas City, MO area and Washington, DC. As of September 30, 2019, there were 250 permanent full-time employees and 38 other employees.

**OIG and GAO Reports**

**Table NIFA-1. Completed OIG Reports**

<b>ID</b>	<b>Date</b>	<b>Title</b>
None	10/20/2014	Assessing Low-cost Alternatives to Leasing Research Facilities
13601-0001-22	08/12/2019	NIFA Formula Grant Program Controls Over Fund Allocation to States
91801-0001-23	08/01/2019	OIG Inspection on USDA's Proposal to Reorganize & Relocate the Economic Research Service and the National Institute of Food and Agriculture
50501-0017-12	09/2018	Security Over Select USDA Agencies' Networks and Systems FY 2018
50101-0018-12	10/2018	FISMA FY 2018
50401-0016-11	11/2018	USDA Consolidated Financial Statement

**Table NIFA-2. In-Progress OIG Reports**

<b>ID</b>	<b>Title</b>
50701-0002-21	USDA's Controls to Prevent the Unauthorized Access to the Transfer of Research Technologies - Draft Report 12/23/2019
84801-0001-22	OIG Inspection Team for USDA Research Integrity and Capacity Inspection - Entrance Conference 11/21/2019

**Table NIFA-3. Completed GAO Reports**

<b>ID</b>	<b>Date</b>	<b>Title</b>	<b>Result</b>
18-656	10/02/2018	Science and Technology: Considerations for Maintaining U.S. Competitiveness in Quantum Computing, Synthetic Biology, and Other Potentially Transformational Research Areas	NIFA participated in discussions with GAO and USDA's OSEC/OCS, the lead on the review. NIFA provided comment/edits for the draft report to OSEC/OCS. No particular recommendations for NIFA. GAO recommends strengthened collaboration for all participating agencies.
19-205R	12/21/2018	Small Business R&D Venture Capital	No recommendations.
19-409	5/23/2019	Network for Manufacturing Innovation Program	No significant involvement for NIFA.
19-26	11/2/2018	Child Labor in Agricultural and Non-Agricultural Occupations	No significant involvement for NIFA.

<b>ID</b>	<b>Date</b>	<b>Title</b>	<b>Result</b>
19-47	06/03/2019	Renewable Fuel Standard (RFS) and its Influence on Transportation Fuel Prices and Greenhouse Gas Emissions	OCE and ARS coordinated response to GAO report.
19-391	06/21/2019	Food Loss and Waste	USDA recommendations, no significant NIFA involvement.
19-285SP	05/21/2019	GAO Annual Fragmentation, Overlap and Duplication Annual Report	USDA participation with Arsenic in Rice Report-GAO 18-199. NIFA provided input to ARS and OSEC for response.
19-572	07/25/2019	Nutrition Education	USDA/REE recommendations.
19-620	09/26/2019	Timeliness of Agency Review of Proposals for SBIR/STTR Awards	No recommendations included.
19-629	09/25/2019	Alternatives to Animal Research	No USDA/NIFA recommendations.
18-491	09/20/2018	Grants Workforce: Actions Needed to Ensure Staff Have Skills to Administer and Oversee Federal Grants	Ongoing USDA OCFO FFAC workgroup effort to implement recommendation. NIFA Program and Operations Officials participated in interviews, provided training documentation and contributed to discussion with GAO concerning the review topic. GAO recommendation for USDA-The Secretary of USDA should establish a process to monitor and evaluate USDA's grants training at the central office level. This process should include (1) a method for identifying all employees working on grants across the agency, and (2) oversight procedures to evaluate the sufficiency of sub-agencies' grant-training efforts including the incorporation of leading practices related to assessing competencies, training approaches, accountability, and training results.

**Table NIFA-4. In-Progress GAO Reports**

<b>ID</b>	<b>Title</b>
102509	Federal Preparedness for Responding to Antimicrobial-Resistant Pathogens

ID	Title
102958	Federal Efforts to Address Sexual Harassment
103389	USDA Programs to Help Service Members Achieve Civilian Employment
103570	Fed Programs to Reduce the Costs and Risks of Diet-related Chronic Disease
102103	Irrigation Agriculture: Technologies, Practices and the Implications for Water Scarcity
103397	Two Generation Poverty

**AVAILABLE FUNDS AND STAFF YEARS**

**National Institute of Food and Agriculture  
(Dollars in Thousands)**

Item	2018 Actual	SY	2019 Actual	SY	2020 Enacted	SY	2021 Budget	SY
National Institute of Food and Agriculture:								
Discretionary Appropriations.....	-		-				\$1,590,818	-
Native American Endowment Interest Earned.....	-		-		-		5,199	
Mandatory Appropriations.....	-		-		-		180,500	
Research and Education Activities:								
Discretionary Appropriations.....	\$887,171	211	\$927,649		\$962,864	-		-
Native American Endowment Interest Earned.....	4,559	-	4,595		5,069	-		-
Mandatory Appropriations.....	-	-	40,000		-	-	-	-
General Provision Appropriation.....	6,000	-	5,000		12,000	-	-	-
Extension Activities:								
Discretionary Appropriations.....	483,626	134	505,692		526,557	-		-
Mandatory Appropriations.....	50,000	-	70,000		73,000			
General Provision Appropriation.....	5,000	-	5,000		5,000	-	-	-
Integrated Activities:								
Discretionary Appropriations.....	37,000	5	38,000		38,000	-		-
Mandatory Appropriations.....	100,000	-	110,000		100,000	-	-	-
Emergency Citrus Disease Trust Fund	0		25,000		25,000		25,000	
Mandatory Appropriations.....	-	-	-		-	-	-	-
Sequestration.....	-9,900	-	-5,580		-11,682	-	-	-
Transfers In.....	60	-	60		-	-	-	-
Adjusted Appropriation	1,563,516	350	1,725,416	314	1,735,808	208	1,801,517	243
Balance Available, SOY.....	563,847	-	575,684	-	674,922	-	-	-
Other Adjustments (Net)	21,785	-	17,389	-	-	-	-	-
Total Available.....	2,149,148	350	2,318,489	314	2,410,730	208	1,801,517	243
Lapsing Balances.....	-513	-	-219	-	-	-	-	-
Balance Available, EOY	-575,684	-	-674,922	-	-	-	-	-
Obligations.....	1,572,951	350	1,643,348	314	2,410,730	208	1,801,517	243

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

Other Funding:								
Biodiesel Fuel Education Program.....	934	-	-	-	-	-	-	-
Community Food Projects Program.....	9,000	-	4,000	-	5,000	-	5,000	-
Total, Other Funding	9,934	-	4,000	-	5,000	-	5,000	-
Balance Available, SOY	-	-	-	-	-	-	-	-
Other Adjustments (Net)	-	-	-	-	-	-	-	-
Total Available.....	9,934	-	4,000	-	5,000	-	5,000	-
Lapsing Balances.....	-	-	-	-	-	-	-	-
Bal. Available, EOY.....	-	-	-	-	-	-	-	-
Obligations.....	9,934	-	4,000	-	5,000	-	5,000	-
Subtotal Obligations, NIFA.....	1,582,885	350	1,647,348	314	2,415,730	208	1,806,517	243
Ob. Under Other USDA Appr.:								
Research and Education Activities:								
Agricultural Research Service:								
Biotechnology Risk Assessment.....	1,498	-	1,436	-	1,498	-	-	-
National Atmospheric Deposition Program.....	5	-	5	-	5	-	-	-
Forest Service:								
National Atmospheric Deposition Program.....	198	-	203	-	198	-	-	-
Biotechnology Risk Assessment.....	108	-	108	-	108	-	-	-
Various agencies sharing cost of the USDA Small Business Innovation Research Program (SBIR)	2,827	-	3,943	-	4,746	-	4,746	-
Various research agencies sharing cost of the Current Research Information System (CRIS) .....	-	-	636	-	636	-	650	-
Subtotal Ob. Under Other USDA.....	4,636	-	6,331	-	7,191	-	5,396	-
Extension Activities:								
Farm Service Agency:								
Farm Stress Training and Assistance.....	500	-	-	-	-	-	-	-
Subtotal Extension Activities: .....	500	-	-	-	-	-	-	-
Total Ob. Under Other USDA Appro.:	5,136	-	6,331	-	7,191	-	5,396	-
Other Federal Funds:								
Research and Education Activities:								
US Air Force								
Family Advocacy Program.....	2,343	-	-	-	-	-	-	-
US Air Force								
Traumatic Brain Injury.....	1,588	-	-	-	-	-	-	-
Department of Commerce								
NOAA National Atmospheric Deposition Program.....	165	-	88	-	101	-	101	-
Department of Defense:								
Professional Development Delivery Model.....	661	-	-	-	-	-	-	-
Department of Interior:								

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

Geological Survey, National Atmospheric Deposition Program.....	581	-	581	-	531	-	531	-
National Park Service, National Trends Network (NPS) .....	415	-	350	-	411	-	411	-
Bureau of Land Management, National Atmospheric Deposition Program.....	35	-	39	-	39	-	39	-
Subtotal, Research	5,788	-	1,062	-	1,082	-	1,082	-
Extension Activities:								
Department of Defense:								
Army Substance Abuse Program, Ft-Sam	327	-	333	-	327	-	327	-
Army/4-H Military Partnership.....	-	-	-	-	-	-	-	-
Army - New Parent Support Program (NPSP)	312	-	-	-	-	-	-	-
Air Force 4-H Programs.....	2,600	-	-	-	-	-	-	-
Air Force - Airmen Family Readiness.....	500	-	-	-	-	-	-	-
Air Force Partnership & Outreach and Support.....	-	-	-	-	-	-	-	-
Clearinghouse for Military Family Readiness.....	2,635	-	5,953	-	2,635	-	2,635	-
Family Advocacy Program Incident Determination Committee.....	2,693	-	-	-	-	-	-	-
Family Advocacy Program.....	249	-	-	-	-	-	-	-
Military Family Learning Network.....	2,435	-	2,480	-	2,435	-	2,435	-
Military Family Learning Networks Leadership & Core Support.....	-	-	-	-	-	-	-	-
Project Youth Extension Services.....	1,000	-	1,000	-	1,000	-	1,000	-
Project Military REACH.....	660	-	770	-	660	-	660	-
Teen Adventure Camps.....	770	-	770	-	770	-	770	-
Substance Abuse Program Joint Base San Antonio, TX.....	-	-	-	-	-	-	-	-
Suicide Prevention Professional Development....	351	-	-	-	-	-	-	-
Virtual Lab School.....	3,300	-	3,300	-	3,300	-	3,300	-
Yellow Ribbon Reintegration Program Metric.....	600	-	650	-	600	-	600	-
Department of Housing and Urban Development								
Promoting IPM in Affordable Housing .....	400	-	400	-	400	-	400	-
Healthy Homes.....	350	-	500	-	350	-	350	-
Department of Navy								
Navy/4-H Military Partnership and Outreach and Support...	2,871	-	-	-	-	-	-	-
Navy Youth Sports and Fitness Project.....	-	-	-	-	-	-	-	-
Other Agreements.....	-	-	-	-	3,500	-	3,500	-
Subtotal, Extension	22,053	-	16,156	-	15,977	-	15,977	-
Total NIFA Other Federal Funds	27,841	-	17,218	-	17,059	-	17,059	-
Total, NIFA	1,605,928	350	1,666,897	314	2,434,980	208	1,823,972	243

**PERMANENT POSITIONS BY GRADE AND STAFF YEAR**

Item	D.C.	Field	2018 Actual Total	D.C.	Field	2019 Actual Total	D.C.	Field	2020 Enacted Total	D.C.	Field	2021 Budget Total
SES	8	-	8	8	-	8	1	7	8	1	7	8
GS-15	75	-	75	75	-	75	10	65	75	10	65	75
GS-14	57	-	57	57	-	57	1	56	57	1	56	57
GS-13	68	-	68	68	-	68	2	66	68	2	66	68
GS-12	83	-	83	83	-	83	3	80	83	3	80	83
GS-11	33	-	33	33	-	33	2	31	33	2	31	33
GS-10	7	-	7	7	-	7	-	7	7	-	7	7
GS-9	23	-	23	23	-	23	-	23	23	-	23	23
GS-8	14	-	14	14	-	14	-	14	14	-	14	14
GS-7	28	-	28	28	-	28	1	27	28	1	27	28
GS-6	8	-	8	8	-	8	-	8	8	-	8	8
GS-5	4	-	4	4	-	4	1	3	4	1	3	4
GS-4	3	-	3	3	-	3	-	3	3	-	3	3
Other Graded	1	-	1	1	-	1	-	1	1	-	1	1
Total	412	-	412	412	-	412	21	391	412	21	391	412
Permanent Unfilled, EOY	96	-	96	162	-	162	-	169	169	-	70	70
Total Perm. FT EOY	316	-	316	250	-	250	21	222	243	21	321	342
Staff Year Est	350	-	350	314	-	314	17	191	208	17	226	243

**SHARED FUNDING PROJECTS**

Item	2018 Actual	2019 Actual	2020 Enacted	2021 Budget
<b>Working Capital Fund:</b>				
Administration:				
Material Management Service.....	58	37	62	62
Mail and Reproduction Services.....	300	290	328	336
Integrated Procurement Systems.....	34	34	29	29
Human Resources Enterprise Management Systems.....	6	9	9	9
Subtotal.....	398	370	428	437
Communications:				
Creative Media & Broadcast Center.....	38	22	28	26
Finance and Management:				
National Finance Center.....	109	104	97	90
Financial Shared Service.....	610	1,925	2,226	1,989
Internal Control Support Services.....	128	101	137	112
Subtotal.....	847	2,130	2,460	2,191
Information Technology:				
Client Experience Center.....	410	583	670	700
Digital Infrastructure Service Center.....	583	602	1,128	1,086
Enterprise Network Services.....	201	190	526	534
Subtotal.....	1,194	1,375	2,324	2,320
Correspondence Management.....	33	11	11	12
Total, Working Capital Fund.....	2,510	3,908	5,251	4,986
<b>Department-Wide Shared Cost Programs:</b>				
Advisory Committee Liaison Services.....	2	-	-	-
Physical Security.....	-	-	21	15
Agency partnership Outreach.....	26	27	28	28
Human Resources Transformation.....	3	-	-	-
Human Resource Self Service Dashboard.....	2	2	2	-
Intertribal Technical Assistance Network.....	11	11	11	11
Medical Services.....	22	20	13	-
People's Garden.....	2	-	-	-
Personnel and Document Security .....	7	6	6	6
Pre-authorizing Funding.....	7	9	11	11
security operations.....	37	37	21	23
security detail.....	16	15	16	16
TARGET Center.....	5	4	4	4
USDA Enterprise Data Analytics Services.....	-	-	19	19
Virtual University.....	4	-	-	-
Total, Department-Wide Reimbursable Programs.....	144	131	152	133
<b>E-Gov:</b>				
Budget Formulation and Execution Line of Business.....	3	3	3	4
Enterprise Human Resources Integration.....	8	8	-	-
E-Rulemaking.....	17	14	9	9
Financial Management Line of Business.....	1	1	1	1
Geospatial Line of Business.....	13	13	13	13
GovBenefits.gov.....	-	-	48	48
Grants.gov.....	359	344	329	329
Human Resources Line of Business.....	1	1	1	1
Integrated Acquisition Environment.....	55	59	40	40
Total, E-Gov.....	457	443	444	445
Agency Total.....	3,111	4,482	5,847	5,564

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

LEAD-OFF TABULAR STATEMENT

**National Institute of Food and Agriculture**

2020 Appropriations.....	\$1,527,421,000
Change in Appropriation.....	63,397,000
<b>2021 Request.....</b>	<b>1,590,818,000</b>

**Research and Education Activities Account**

2020 Appropriations.....	(\$962,864,000)
Change in Appropriation.....	(-962,864,000)
<b>2021 Request.....</b>	<b>0</b>

**Extension Activities Account**

2020 Appropriations.....	(\$526,557,000)
Change in Appropriation.....	(-526,557,000)
<b>2021 Request.....</b>	<b>0</b>

**Integrated Activities Account**

2020 Appropriations.....	(\$38,000,000)
Change in Appropriation.....	(-38,000,000)
<b>2021 Request.....</b>	<b>0</b>

APPROPRIATIONS LANGUAGE

The appropriations language follows (new language underscored; deleted matter enclosed in brackets):

National Institute of Food and Agriculture

For payments to agricultural experiment stations, for cooperative forestry and other research, for facilities, for payments to States, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, Micronesia, the Northern Marianas, and American Samoa for cooperative extension activities, for integrated activities, for research, education, and extension grant programs, including necessary administrative expenses, and for other expenses, \$1,590,818,000: *Provided*, That \$677,894,000, to remain available until expended, shall be for research grants for 1994 institutions, education grants for 1890 institutions, the agriculture and food research initiative, veterinary medicine loan repayment, grants management systems, Hispanic serving institutions education grants, tribal colleges education equity grants, extension services at 1994 institutions, and facility improvements at 1890 institutions: *Provided further*, That each institution eligible to receive funds under the Evans-Allen program receives no less than \$1,000,000: *Provided further*, That \$5,000,000, to remain available until September 30, 2022, shall be available to provide competitive grants for

food and agricultural sciences at Alaska, Hawaii, and Insular area institutions: *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. 3157 may be retained by the Secretary of Agriculture to pay administrative costs incurred by the Secretary in carrying out that authority: *Provided further,* That institutions eligible to receive funds under 7 U.S.C. 3221 for cooperative extension shall receive not 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: *Provided further,* That funds for the Food and Agriculture Defense Initiative shall remain available until September 30, 2022: *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).

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.

[Extension activities]

[For payments to States, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, Micronesia, the Northern Marianas, and American Samoa, \$526,557,000, which shall be for the purposes, and in the amounts, specified in the table titled "National Institute of Food and Agriculture, Extension Activities" in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act): *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.]

[Research and education activities]

[For payments to agricultural experiment stations, for cooperative forestry and other research, for facilities, and for other expenses, \$962,864,000, which shall be for the purposes, and in the amounts, specified in the table titled "National Institute of Food and Agriculture, Research and Education Activities" in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act): *Provided,* That funds for research grants for 1994 institutions, education grants for 1890 institutions, capacity building for non-land-grant colleges of agriculture, the agriculture and food research initiative, veterinary medicine loan repayment, multicultural scholars, graduate fellowship and institution challenge grants, 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. 3157 may be retained by the Secretary of Agriculture to pay administrative costs incurred by the Secretary in carrying out that authority.]

[Native American Institutions Endowment Fund]

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

[Integrated activities]

[For the integrated research, education, and extension grants programs, including necessary administrative expenses, \$38,000,000, which shall be for the purposes, and in the amounts, specified in the table titled "National Institute of Food and Agriculture, Integrated Activities" in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act): Provided, That funds for the Food and Agriculture Defense Initiative shall remain available until September 30, 2021: 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 2021 budget proposes a change in language, specifically to eliminate appropriations language contained in separate research and education, extension, and integrated accounts to incorporate the language into one agency account. The change creates a new appropriations language paragraph for a single merged National Institute of Food and Agriculture account and retains the Native American Institutions Endowment Fund in the Research and Education Activities account. It also deletes the remaining language contained in separate Research and Education, Extension, and Integrated Activities accounts while incorporating the language into one agency account.

In 1994, the Extension Service (ES) and Cooperative State Research Service (CSRS) were merged into the Cooperative State Research, Education, and Extension Service (CSREES) which in 2009 became the National Institute of Food and Agriculture as required by the 2008 Farm Bill. ES and CSRS each had their own appropriations account. After the 1994 merger, the ES account was renamed Extension Activities and the CSRS account was renamed Research and Education Activities. The 1998 Farm Bill established a new Integrated Research, Education, and Extension Competitive Grants Program (Section 406). An Integrated Activities account was established in FY 2000 for programs funded under this authority. Since then NIFA has been working to integrate research, education, and extension activities across many of its programs. In 2012, changes were made in the Congressional appropriations process to streamline the NIFA accounts so that the bill language was less cumbersome. The Committee's changes also incorporated the report table into the bill by reference, making it easier to identify the specific funded programs along with their funding amounts and program authorizations. Building upon the need to further simplify the appropriations language and clearly identify all NIFA-funded

programs, NIFA proposes to organize the funding lines within a single NIFA account rather than the current three separate accounts.

Merging all funding lines within a single account structure will mirror the organization as a National Institute with a unified mission and offer opportunities to streamline administration of funds. Having a single appropriation account will reduce the complexity of the account structure by reducing the number of financial accounts by at least half. This will contribute to simplifying operational procedures and reduce staff time that is currently dedicated to managing multiple accounts. The change in account structure will not impact the function or funding level of any program, but it will help simplify the management of funds within the financial systems. It will have no effect on the appropriated lines or programs and will not change how NIFA implements funded programs. However, it will reduce the number of accounts that are included in the Congressional bill by eliminating the three older, existing accounts and substituting one consolidated account. The report language would also be simplified to mirror the bill language, reducing Committee staff time needed to draft legislative and report language. The language also requests no-year spending authority for several programs that provide grants to minority-serving institutions. Sometimes projects are completed but have funding remaining on the award. Normally, those annual funds are returned to Treasury because they expire. Changing the programs from annual funds to no-year funding availability will allow unused grant funds to be used for more awards.

**PROJECT STATEMENT**

United States Department of Agriculture National Institute of Food and Agriculture (Dollars in Thousands)											
Program/Activity	2018		2019		2020		2021		Change from		Chg Key
	Actual		Actual		Enacted		Budget Request		2020 Estimate		
	B.A.	SY	B.A.	SY	B.A.	SY	B.A.	SY	B.A.	SY	
<b>Direct Appropriations:</b>											
Hatch Act.....	\$243,701		\$259,000		\$259,000		\$243,238		\$-15,762		(1)
McIntire-Stennis Cooperative Forestry Research Progra	33,961		36,000		36,000		28,867		-7,133		(2)
Evans-Allen Payments to 1890 Colleges and Tuskegee I	54,185		58,000		67,000		53,817		-13,183		(3)
Animal Health and Disease Research, Section 1433.....	4,000		4,000		4,000		0		-4,000		(A)
<b>Special Grants:</b>											
IR-4 Minor Crop Pest Management.....	11,913		11,913		11,913		17,000		5,087		(4)
Other Special Grants.....	5,255		6,155		6,155		0		-6,155		(A)
<b>Total Special Grants.....</b>	<b>17,168</b>		<b>18,068</b>		<b>18,068</b>		<b>17,000</b>		<b>-1,068</b>		
Alfalfa Forage and Research Program.....	2,250		3,000		3,000		0		-3,000		(A)
Aquaculture Centers, Section 1475.....	5,000		5,000		5,000		0		-5,000		(A)
Supplemental and Alternative Crops, Section 1473D.....	825		1,000		1,000		0		-1,000		(A)
Farm Business Management and Benchmarking Progra	2,000		2,000		2,000		2,000		0		
Sun Grant Program.....	3,000		3,000		3,000		0		-3,000		(A)
Research Equipment Grants.....	0		0		5,000		0		-5,000		(A)
Sustainable Agriculture.....	35,000		37,000		37,000		37,000		0		
Capacity Building for Non-Land Grant Colleges of Agrk	5,000		5,000		5,000		0		-5,000		(A)
Agriculture and Food Research Initiative.....	400,000		415,000		425,000		600,000		175,000		(5)
1994 Institutions Research Program.....	3,801		3,801		3,801		3,800		-1		(6)
<b>Federal Admin - Direct Appropriation:</b>											
Grants Management Systems.....	7,830		7,830		7,830		7,924		94		(7a)
Other General Administration - Research.....	11,862		11,862		11,862		0		-11,862		(7b)*
Single Account - General Administration.....	0		0		0		19,346		19,346		(7c)*
<b>Total Federal Administration.....</b>	<b>19,692</b>		<b>19,692</b>		<b>19,692</b>		<b>27,270</b>		<b>7,578</b>		
<b>Total Research.....</b>	<b>829,583</b>		<b>869,561</b>		<b>893,561</b>		<b>1,012,992</b>		<b>119,431</b>		
<b>Higher Education Activities:</b>											
Institution Challenge, Multicultural Scholars, and Gradua	9,000		9,000		9,000		0		-9,000		(B)
1890 Institution Capacity Building Grants.....	19,336		19,336		23,009		19,336		-3,673		(8)
Scholarships at 1890 Institutions.....	0		-		5,000		10,000		5,000		(9)
Tribal Colleges Education Equity Grants Program.....	3,439		3,439		4,000		3,439		-561		(10)
Hispanic Serving Institutions Education Grants Program.	9,219		9,219		11,200		9,219		-1,981		(11)
Secondary/Post Secondary.....	900		900		900		0		-900		(B)
Veterinary Medical Services Act Program.....	8,000		8,000		8,000		8,000		0		
Veterinary Services Grant Program.....	2,500		3,000		3,000		0		-3,000		(B)
Competitive Program for Native Alaskans, Native Haw:	0		0		0		5,000		5,000		(12)
Alaska Native-Serving and Native Hawaiian-Serving In:	3,194		3,194		3,194		0		-3,194		(12)
Grants for Insular Areas.....	2,000		2,000		2,000		0		-2,000		(12)
<b>Total Education.....</b>	<b>57,588</b>		<b>58,088</b>		<b>69,303</b>		<b>54,994</b>		<b>-14,309</b>		
<b>Total Research and Education.....</b>	<b>887,171</b>		<b>927,649</b>		<b>962,864</b>		<b>1,067,986</b>		<b>105,122</b>		
<b>Extension Activities:</b>											
Smith Lever 3b&c.....	300,000		315,000		315,000		299,430		-15,570		(14)
1890 Extension.....	45,620		48,620		57,000		48,620		-8,380		(15)
Smith Lever 3(d).....											
EFNEP.....	67,934		69,000		70,000		69,000		-1,000		(17)
Children, Youth, and Families at Risk.....	8,395		8,395		8,395		8,395		0		
New Technologies at Ag Extension.....	1,550		1,550		1,550		1,550		0		
Federally Recognized Tribes Extension Program.....	3,039		3,039		3,200		3,039		-161		(18)
Farm Safety and Youth Farm Safety Education and C	4,610		4,610		4,610		4,610		0		
Food Safety Outreach Program.....	7,000		8,000		8,000		8,000		0		
Renewable Resources Extension Act.....	4,060		4,060		4,060		4,060		0		
Extension Services at the 1994 Institutions.....	6,446		6,446		8,000		6,446		-1,554		(19)
Rural Health and Safety Education Program.....	3,000		3,000		4,000		3,000		-1,000		(20)
Food Animal Residue Avoidance Database Program.....	2,500		2,500		2,500		0		-2,500		(C)
1890 Facilities.....	19,730		19,730		20,500		19,730		-770		(21)
Women and Minorities in STEM Fields.....	400		400		400		400		0		
Food and Ag Service Learning.....	1,000		1,000		1,000		0		-1,000		(C)
Farm Stress Assistance Network.....	0		2,000		10,000		8,000		-2,000		(16)
<b>Federal Admin (Direct Appropriation)</b>											
Ag in the Classroom.....	552		552		552		552		0		
Other General Administration - Extension.....	7,790		7,790		7,790		0		-7,790		(7d)
<b>Total Federal Administration.....</b>	<b>8,342</b>		<b>8,342</b>		<b>8,342</b>		<b>552</b>		<b>-7,790</b>		
<b>Total Extension.....</b>	<b>483,626</b>		<b>505,692</b>		<b>526,557</b>		<b>484,832</b>		<b>-41,725</b>		

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

Integrated Activities:					
Methyl Bromide Transition Program.....	2,000	2,000	2,000	2,000	0
Organic Transition Program.....	5,000	6,000	6,000	6,000	0
Regional Rural Development Centers Program.....	2,000	2,000	2,000	2,000	0
Food and Agriculture Defense Initiative (Homeland Sec	8,000	8,000	8,000	8,000	0
Crop Protection/Pest Management.....	20,000	20,000	20,000	20,000	0
<b>Total Integrated.....</b>	<b>37,000</b>	<b>38,000</b>	<b>38,000</b>	<b>38,000</b>	<b>0</b>
Subtotal, Direct Appropriations .....	1,407,797 350	1,471,341 314	1,527,421 208	1,590,818 243	63,397 35
General Provisions:					
Section 753: Relocation and Building Alteration/Rep	6,000	0	0	0	0
Section 777: Enhancing Ag Opp Military Veterans i	5,000	5,000	5,000	0	-5,000
General Provisions- 1890 Centers of Excellence.....	0	5,000	6,000	0	-6,000
General Provisions- New Beginnings for Tribal Stud	0	0	5,000	0	-5,000
General Provisions- Agriculture Genome to Phenom	0	0	1,000	0	-1,000
Transfers In:					
Congressional Relations .....	60	60	0	0	0
Subtotal, Transfers In.....	60	60	0	0	0
<b>Subtotal Appropriation</b>	<b>1,418,857</b>	<b>1,481,401</b>	<b>1,544,421</b>	<b>1,590,818</b>	<b>46,397</b>
Endowment Funds:					
Native American Endowment Fund.....	(11,880)	(11,880)	(11,880)	(11,857)	(-23)
Native American Endowment - Interest.....	4,559	4,595	5,069	5,199	130
<b>Total Endowment.....</b>	<b>4,559</b>	<b>4,595</b>	<b>5,069</b>	<b>5,199</b>	<b>130</b>
<b>Subtotal, Discretionary Funds .....</b>	<b>1,423,416</b>	<b>1,485,996</b>	<b>1,549,490</b>	<b>1,596,017</b>	<b>46,527</b>
Mandatory Funds:					
Food Insecurity Nutrition Program/Gus Schumache	23,350	45,000	45,168	48,000	2,832
Risk Management Education Program .....	4,670	9,380	9,410	10,000	590
Beginning Farmers and Ranchers Development Pro	18,680	15,000	14,115	17,500	3,385
Specialty Crop Research Initiative.....	51,370	75,040	75,280	80,000	4,720
Emergency Citrus Disease Research and Extension l	23,350	25,000	23,525	25,000	1,475
Organic Research and Extension Initiative .....	18,680	20,000	18,820	25,000	6,180
Urban, Indoor & Other Emerging Ag Production...	0	10,000	0	0	0
Scholarships for 1890 Students .....	0	40,000	0	0	0
<b>Subtotal, Mandatory Funds .....</b>	<b>140,100</b>	<b>239,420</b>	<b>186,318</b>	<b>205,500</b>	<b>19,182</b>
<b>Total Adjusted Appropriations.....</b>	<b>1,563,516 350</b>	<b>1,725,416 314</b>	<b>1,735,808 208</b>	<b>1,801,517 243</b>	<b>82,709 35</b>
Sequestration	9,900	5,580	11,682	0	
<b>Total Appropriation</b>	<b>1,573,416 350</b>	<b>1,730,996 314</b>	<b>1,747,490 208</b>	<b>1,801,517 243</b>	<b>82,709 35</b>
Carryover from Prior Years.....	563,847	575,684	674,922		
Subtotal Carryover.....	563,847	575,684	674,922	0	0
Transfers Out .....	0	0	0	0	0
Rescissions .....	0	0	0	0	0
Sequestration .....	-9,900	-5,580	-11,682	0	11,682
Recoveries, Other .....	21,725	17,329	0	0	0
<b>Total Available.....</b>	<b>2,149,148 350</b>	<b>2,318,489 314</b>	<b>2,410,730 208</b>	<b>1,801,517 243</b>	<b>-609,213 35</b>
Lapsing Balances.....	-513	-219	0	0	0
Balances, Available End of Year.....	-575,684	-674,922	0	0	0
<b>Total Obligations .....</b>	<b>\$1,572,951 350</b>	<b>\$1,643,348 314</b>	<b>2,410,730 208</b>	<b>1,801,517 243</b>	<b>-609,213 35</b>

\*Note: The sum of changes shown in Justification items 7b and 7c (net +\$7.484 million) equal the sum of the -\$11,862 for Other General Administration – Research and +\$19,346 for the merged Single Account – General Administration funding lines shown on the Project Statement.

## JUSTIFICATIONS OF INCREASES/DECREASES

1. A decrease of \$15,762,000 for Hatch Act (\$259,000,000 available in 2020).

Hatch base capacity funds are used to support continuing agricultural research at 1862 Land-Grant Universities (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 vibrant 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. 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. Funding is requested to address local, regional, and national challenges in agriculture.

2. A decrease of \$7,133,000 for McIntire-Stennis Research Program (\$36,000,000 available in 2020).

The McIntire-Stennis Research Program supports development of new knowledge and innovations to sustain healthy, productive forests, agroforests, rangelands, and grasslands and address the challenges facing forest owners and the forest products industry. The McIntire-Stennis Research Program develops critical information that enables researchers and land managers (along with their advisors such as Cooperative Extension) to develop the plant materials and management practices that can maintain the flow of services and products that the U.S. relies upon from these lands. 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.

McIntire-Stennis is the only formula fund that is directed exclusively to support forestry, range, and the forest products industry, and supports programs in the 1890s and 1862s LGUs and non-land-grant colleges of forestry, as well as provides for the pipeline of new foresters, researchers, and range managers in the forestry workforce. The support is crucial to ensuring the continued success of these programs that provide researchers with the resources to deal with issues of local and regional importance; issues that other federal research programs have difficulty addressing.

McIntire-Stennis Cooperative Forestry Program funds will be used to support research in the following topic areas: understanding the impacts of new stressors and developing management solutions; utilization of wood and new applications for forest products; development of sound policies for the harvesting and marketing of forest products; strengthening forestry program and support new initiative in multi cropping (agroforestry); management of forest and related rangeland and grassland for livestock, game and wildlife; utilization of wood and other forest

products; management of rotational grazing; and increasing the use of agroforestry by landowners and communities, with a priority on underserved and minority audiences.

The program addresses the USDA Strategic Plan, specifically Goal #6: Ensure Productive and Sustainable Use of our National Forest System Lands.

3. A decrease of \$13,183,000 for Evans-Allen Capacity Grants (\$67,000,000 available in 2020).

Currently, the Program is supporting over 200 active research projects that will enhance innovation, support training of the next generation of African-American workers and researchers and address various issues in limited-resourced communities such as obesity and diabetes. The funding for the program is needed to help build capacity and reduce the disparities that exist between the land-grant universities. This program directly contributes to advancing USDA's Strategic Goals, specifically Goal #4: Facilitate Rural Prosperity and Economic Development. In addition, the program supports all the recommendations of the Task Force on Agriculture and Rural Prosperity.

4. An increase of \$5,087,000 for IR-4 Minor Crop Pest Management (\$11,913,000 available in 2020).

The proposed funding increase will support an additional 22 pesticide data projects per year as well as additional biopesticide and organic projects. The data projects will generate research results needed for the registration of pesticides that are lower risk, effective and economical. In addition, the IR-4 program will support research efforts that address the priorities established by the Executive Order on Modernizing the Regulatory Framework for Agricultural Biotechnology Products. Increased funding will also be used to expand the IR-4 program's harmonization activities with America's key trading allies. Unlike most major crops, many American specialty crops have difficulty reaching lucrative international markets due to the lack of a harmonized pesticide approval system between our trading partners. Program investments will be guided by a priority-setting process that engages commodity producers, state and Federal research scientists, and cooperative extension specialists.

5. An increase of \$175,000,000 for Agriculture and Food Research Initiative (AFRI) (\$425,000,000 available in 2020).

To support the transformative innovations needed for enhancing profitability in U.S. agriculture and for boosting rural prosperity, NIFA proposes to increase its investment to \$600 million in AFRI, America's flagship competitive grants program for food and agricultural sciences. This investment is critical for supporting systems-level as well as foundational research on agricultural production and products, 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. Past AFRI investments have directly benefited agricultural producers by providing improved cultivars, creating climate-smart decision tools, and developing high-value uses of agricultural products.

To achieve the transformation of U.S. agricultural systems, NIFA proposes the AFRI program to include a broad emphasis on ‘Harnessing Technological Innovation for Rural Prosperity’ through focused investments in three major complementary components of AFRI: 1) Sustainable Agricultural Systems, 2) Foundational and Applied Science, and 3) Education and Workforce Development. These foci on data-driven solutions and technology-savvy workforce development 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 competitiveness in food and agricultural production. Collectively, these investments in AFRI address the President’s priorities as described in the OMB-Office of Science and Technology Policy memorandum on ‘Fiscal Year 2021 Administration Research and Development Budget Priorities’, support USDA’s strategic goals and contribute to actions listed in the report of the Interagency Task Force of Agriculture and Rural Prosperity.

To respond to the Executive Order on Maintaining American Leadership in Artificial Intelligence (<https://www.whitehouse.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/>) and the National Artificial Intelligence Research and Development Strategic Plan (<https://www.nitrd.gov/pubs/National-AI-RD-Strategy-2019.pdf>), AFRI will emphasize Artificial Intelligence (AI), Machine Learning, and Predictive Science in FY 2021. With increased funding, NIFA will invest \$100 million in these emphasis areas across the Sustainable Agricultural Systems, Foundational and Applied Science, and Education and Workforce Development programs. These new investments will build on previous investments in the Food and Agriculture Cyberinformatics Tools (FACT) program area to enhance application of advanced technology in agricultural systems across all scales of production.

NIFA proposes to invest \$140 million of appropriated funds in the Sustainable Agricultural Systems programs to support large integrated projects that develop and apply technological solutions to major agricultural system challenges. 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. STEM education will be emphasized in the integrated research, extension and education grants supported by Sustainable Agricultural Systems.

The agency proposes to invest \$400 million in the Foundational and Applied Science programs, and for support of interagency partnerships on technologies such as robotics, unmanned aerial systems and cyberphysical systems. A major interagency investment in FY 2021 will be AI institutes funded for applying the power of AI to solve agricultural challenges. The agency will maintain increased investments made in previous years in plant and animal breeding that support classical breeding efforts to improve crop and animal productivity and will increase

funding to support emerging technologies such as gene editing, sensors, autonomous systems, precision animal agriculture, and machine learning as applied to agriculture. NIFA will continue to invest in research on the microbiomes of foods, food animals, plants, human gut, and soils, as well as agricultural biosecurity to protect our Nation's food supply and agricultural economy. An additional focused component of NIFA's investments in support of rural prosperity will support research and related activities addressing societal acceptance and economic implications of agricultural technologies, including gene editing and big data.

The agency proposes to invest \$60 million in Education and Workforce Development programs to enhance the capacity of diverse educational institutions and promote development of the U.S. agricultural and rural workforce. To spur innovations in the agricultural economy funding will be increased for exceptional students and early-career scientists, engineers, and entrepreneurs engaged in enhancing rural prosperity and American agricultural competitiveness. To connect rural skillsets to jobs of the future, investments will be increased in K-14 programs that focus on work-based learning, workforce reskilling, instructor education and curriculum development; especially in the Administration's R&D priority areas such as bioeconomy, AI, and advanced manufacturing. This Education and Workforce Development program contributes to the OMB and OSTP guidance to align future STEM education activities with the priority areas of the 5-year Federal Strategic Plan for STEM education (<https://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf>). New in FY 2021 will be an area on informal education on biotechnology, particularly gene editing. This area will address one of the priorities in the Executive Order on agricultural biotechnology (<https://www.whitehouse.gov/presidential-actions/executive-order-modernizing-regulatory-framework-agricultural-biotechnology-products/>) and will provide unbiased scientific information on new biotechnologies that are central to the success of American agriculture.

6. A decrease of \$1,000 for Research Grants for 1994 Institutions (\$3,801,000 available in 2020).

The Tribal College Research program assists 1994 LGUs in building institutional research capacity through competitive funding of applied projects and in turn, address the questions that matter to tribal communities such as protecting reservation forests or monitoring water quality. 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 land-grant universities; and support research on various topics of importance to the United States. The 1994 LGUs are essential for healthy and sustainable individuals, Indian communities and Tribal Reservations. 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 to their economic opportunities. This program advances several USDA Strategic Goals, including Goal #4: Facilitate Rural Prosperity and Economic Development; and Goal #6: Foster productive and sustainable use of our National Forest System Lands.

7. A net decrease of \$212,000 for Federal Administration (\$27,482,000 available in 2020 under the Research and Education Activities and Extension Activities Accounts).

- a. An increase of \$94,000 for Grants Management Systems under Federal Administration (\$7,830,000 available in 2020).

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 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.

The Plan of Work (POW) Panel of Experts, composed of representatives from land-grant universities (LGUs) and the National Institute of Food and Agriculture (NIFA), convened in June, 2015. The Panel recommended that NIFA work to streamline tactics to improve data quality in reports and reduce duplication and burden on LGUs and NIFA. Overall, the Panel recommended consolidating POW and REEport into one integrated system. These funds will continue to help with streamlining of the functionality.

- b. An increase of \$6,404,000 to consolidate Other General Administration (\$11,862,000 available in 2020 under Research and Education Activities account).

The consolidation of general administration costs will streamline administration funds.

- c. An increase of \$1,080,000 to fund Pay/FERS/Benefits under Federal Administration (\$0 available in 2020).

Increased costs due to an increase in the amount of costs for retirement benefits are proposed to be included in the consolidated General Administration funding line, as follows:

- i. An increase of \$410,000 for pay costs (\$188,000 for annualization of the 2020 pay increase and \$222,000 for the 2021 pay increase).

NIFA’s programs are managed at the national level with a staff that represents 316 permanent full-time employees at the end of 2018. 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 zero and five percent of funds provided from programs may be used to support administration of the programs as established by law. Building lease and DHS security payments are included. Additional funds may be used to address security needs as well as costs for lease charges for tax escalation. The consolidation of general administration costs will offer opportunities to streamline administration funds management. Reducing base funding for administration and pay costs will limit the agency’s ability to train new staff, provide for travel to scientific meetings to represent the agency, and provide mission support.

- ii. An increase of \$296,000 for performance awards.

This increase will support a 1 percentage point increase in awards spending, consistent with objectives outlined in the President’s Management Agenda, to enhance workforce development. Without this additional funding, Agency would need to absorb these costs in FY 2021, resulting in reductions to training plans to ensure new staff are able to support the agency’s mission.

- iii. An increase of \$374,000 for the Department’s increased contribution to the Federal Employees Retirement System (FERS).

This increase will cover the expenses for the mandated increase of USDA’s contribution to FERS. These increases were effective January 1, 2020, and impact nearly all NIFA employees’ retirement packages.

- d. A decrease of \$7,790,000 to consolidate Other General Administration-Extension (\$7,790,000 available in 2020 under Extension Activities account).

The consolidation of general administration costs will streamline administration funds. Funds are not eliminated but rather moved to a single funding line.

**A) A decrease of \$32,155,000 to eliminate certain research programs (\$32,155,000 available in 2020).**

Program	2020 (\$000)	Decrease (\$000)	2021 (\$000)
Animal Health and Disease Research Program	\$4,000	-\$4,000	0

Global Change, UV-B Monitoring	1,405	-1,405	0
Aquaculture Research	2,000	-2,000	0
Potato Research	2,750	-2,750	0
Alfalfa and Forage Research	3,000	-3,000	0
Aquaculture Centers	5,000	-5,000	0
Supplemental and Alternative Crops	1,000	-1,000	0
Sun Grants	3,000	-3,000	0
Research Equipment Grants	5,000	-5,000	0
Capacity Building for Non-Land Grant Colleges of Agriculture	5,000	-5,000	0
Total	\$32,155	-\$32,155	0

A decrease is proposed to direct funding to higher priority activities and is consistent with the Administration’s policy to redirect available resources, as appropriate, from lower-priority areas to other science and technology activities.

8. A decrease of \$3,673,000 for 1890 Capacity Building Grants (\$23,009,000 available in 2020).

The 1890 Capacity Building Grants aims to strengthen teaching, research, and extension programs in the food and agricultural sciences by building the institutional capacities of the 19 eligible 1890 LGUs - in the need areas of curriculum design and materials development, faculty development; and strengthened research and extension programs in needed areas of studies and experimentation, and development support systems. This program supports the 5-year Federal Strategic Plan for STEM education and the Presidential Executive Order on Promoting Agriculture and Rural Prosperity in America.

9. An increase of \$5,000,000 for establishing Scholarships at 1890 Institutions (\$5,000,000 available in 2020).

Funding is used to provide scholarships to support recruiting, engaging, retaining, mentoring, and training of undergraduate students at the 1890 land-grant institutions, resulting in baccalaureate degrees in the food and agricultural sciences and related STEM fields. The scholarships are intended to encourage outstanding students at 1890 institutions to pursue and complete baccalaureate degrees in the food and agricultural sciences and related fields that would lead to a highly skilled food and agricultural systems workforce. The requested increase in funding will support the 5-year Federal Strategic Plan for STEM education and help address the dearth of underrepresented groups in STEM occupations, i.e., blacks hold 11% of the workforce, but just 6% of STEM occupations.

10. A decrease of \$561,000 for Payments to the 1994 Institution/Tribal Colleges Education Equity Program (\$4,000,000 available in 2020).

The Tribal Colleges Education Equity Grants 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 Americans access to a safe, nutritious, and secure food supply. This program advances several USDA's Strategic Goals, especially Goal #4: Facilitate Rural Prosperity and Economic Development. In addition, the program supports the recommendation of the Task Force on Agriculture and Rural Prosperity on workforce development.

11. A decrease of \$1,981,000 for Hispanic-Serving Institutions Grant Program (\$11,200,000 available in 2020).

The Hispanic-Serving Institutions (HSIs) Grant Program promotes and strengthens the ability of HSIs 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. This program advances several USDA's Strategic Goals, including Goal #4: Facilitate Rural Prosperity and Economic Development, through workforce development; and Goal #7: Provide all Americans access to a safe, nutritious and secure food supply, by fostering community-based programs. The funding for this program is needed to help build capacity and serve as an underpinning for the Hispanic Serving Institutions to successfully compete for the agency's competitive grant programs.

12. A net decrease of \$194,000 to fund the Competitive Alaska Native-serving and Native Hawaiian-serving Institutions Program and Grants for Insular Area Program (\$5,194,000 available in 2020).

- a. An increase of \$5,000,000 for the new Competitive Program for Native Alaskans, Native Hawaiians, and Insular Area Institutions (\$0 available in 2020).

This is a new program with funding directed from combining the Alaska Native-Serving and Native Hawaiian-Serving Institutions Education Competitive Grants Program and the Grants for Insular Area Programs. The funding for the new combined program will be \$194,000 less than what was available for the two separate programs in 2020. A decrease is proposed because of increased economies of scale and efficiencies in grant administration at the Universities.

The Alaska Native-serving and Native Hawaiian-serving Institution program has been successful and benefitted a large number of students in Alaska and Hawaii. Through

this program, Universities of Hawaii and Alaska have established technical capabilities to serve a larger number of students across the Pacific and Atlantic Oceans. In addition, according to the Department of Education definitions, institutions in Insular Areas also serve Native-Hawaiian and are eligible for this program. Hence, to eliminate duplication and in turn, enhance effectiveness and efficiency, funding from this program is being directed to the new Competitive Program for Native Alaskans, Native Hawaiians, and Insular Area Residents.

Distance Education Grants (DEG) for Insular Areas have benefitted students in Insular Areas but more needs to be done to enhance food security on these islands. Universities, such as Hawaii and Alaska, have established programs and infrastructural capacities to serve the insular area institutions but have been hindered by administrative hurdles. The proposed new Competitive Program for Native Alaskans, Native Hawaiians, and Insular Area Residents will remove these hurdles and encourage greater collaboration.

This new program will be administered under the same provisions as the ANNH and Grants for Insular Area Programs (including both the Distance Education Grants and the Resident Instruction Grants programs) as before and therefore, will have similar purposes and eligibility. NIFA will administer this program to promote and strengthen the ability of Alaska, Hawaii and Insular Area Institutions to carry out education, applied research, and related community development programs through competitive funding of single institutional and collaborative projects within a broadly defined arena of food and agricultural sciences. Priority will be given to those projects that deliver enhanced educational equity for underrepresented students; collaborative projects that utilize the existing educational capacities of larger institutions to strengthen small institutions and branch campuses to 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 in the region. This program directly contributes to advancing USDA's Strategic Goals, specifically Goal #4: Facilitate Rural Prosperity and Economic Development. The proposed consolidation supports USDA Strategic Goal #1: Ensure USDA programs are delivered efficiently, effectively, and with integrity and a focus on customer service.

The Alaska Native-Serving and Native Hawaiian Institution and the Institutions in the Insular Areas have many complex challenges due to the geographical dispersion of these land-grant colleges – on islands in the Pacific and Atlantic Oceans; the unique needs of capacity building at these institutions – some are small community colleges while others consist of sprawling systems with very strong food and agriculture education programs; 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.

- b. A decrease of \$3,194,000 to combine the Alaska Native-serving and Native Hawaiian-serving Institutions (\$3,194,000 available in 2020).

A decrease is proposed to direct funding to a new program that combines the Alaska Native-Serving and Native Hawaiian-Serving Institutions Education Competitive Grants (ANNH) Program and the Grants for Insular Area Programs.

- c. A decrease of \$2,000,000 to merge the Grants for Insular Areas Program (\$2,000,000 available in 2020).

A decrease is proposed to direct funding to a new program that combines the ANNH and the Grants for Insular Area Programs.

**B) A decrease of \$12,900,000 to eliminate certain education programs (\$12,900,000 available in 2020).**

Program	2020 (\$000)	Decrease (\$000)	2021 (\$000)
Multicultural Scholars, Graduate Fellowship and Institution Challenge Grants	\$9,000	-\$9,000	0
Secondary and 2-year Post-Secondary Education	900	-900	0
Veterinary Services Grant Program	3,000	-3,000	0
<b>Total</b>	<b>\$12,900</b>	<b>-\$12,900</b>	<b>0</b>

A decrease is proposed to direct funding to higher priority activities and is consistent with the Administration’s policy to redirect available resources, as appropriate, from lower-priority areas to other science and technology activities.

13. An increase of \$130,000 for Tribal Colleges Endowment Fund – Interest Earned (\$5,069,000 available in 2020).

The Tribal Colleges Endowment Fund provides funding for institutional development to support food, agriculture and the mechanic arts. Educational activities, facilities, faculty hiring and development are all allowable expenditures. Annual funding available to the 1994 institutions is based on the amount of interest earned from an endowment corpus. Each 1994 Land-Grant receives a portion of the funding through a formula based in part on the percentage of the student body that is American Indian. NIFA education funding is often the main resource for faculty and degree programs in STEM at the 1994 Land-Grant Colleges, especially in the food, agriculture and natural resource sciences.

The increase is due to the projected interest to be earned on the fund Corpus.

14. A decrease of \$15,570,000 for Smith-Lever Act, Section 3(b) and (c) (\$315,000,000 available in 2020).

Smith-Lever Act, Section 3(b) and (c) 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, through dissemination of information to communities through demonstrations and publications and through positive youth development programming. This program serves farmers, ranchers, foresters, consumers and youth in every county in the country. Funding support will ensure continuation of highly successful program activities, such as the 4-H program.

Funding provided through the Smith-Lever program reaches 6 million youth ages 5 to 19 years. NIFA will continue to support the 4-H program to promote teamwork, problem-solving, communication, critical thinking, and professionalism. A continued investment in the 4-H program through Smith-Lever 3(b) and (c) funding will ensure youth are provided opportunities to grow leadership skills necessary for success.

15. A decrease of \$8,380,000 for 1890 Extension Program (\$57,000,000 available in 2020).

Capacity funds for 1890 Institutions Extension are used to support continuing agricultural and forestry extension activities at 1890 LGUs that science-based educational programs to help youth, families, and communities to address various issues such as workforce training, obesity, food security, and financial literacy. This program is critically needed to help build capacity and serve as an underpinning for the 1890 LGUs to successfully compete for the agency’s competitive grant programs.

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 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

**C) A decrease of \$3,500,000 for certain extension programs (\$3,500,000 available in 2020).**

Program	2020 (\$000)	Decrease (\$000)	2021 (\$000)
Food Animal Residue Avoidance Database (FARAD)	\$2,500	-\$2,500	0
Food and Agriculture Service Learning	1,000	-1,000	0
Total	\$3,500	-\$3,500	\$0

A decrease in certain programs is proposed to direct funding to higher priority activities and is consistent with the Administration’s policy to redirect available resources, as appropriate, from lower-priority areas to other science and technology activities.

The broad FARAD program goals of providing data infrastructure for practical information on how to avoid drug, pesticide, and environmental contaminant residue problems may be supported through AFRI as a part of its Food and Agricultural Cyberinformatics and Tools initiative. This would allow for greater focus on national priorities, and efficiency in program management and implementation through consolidation of program activities.

16. A decrease of \$2,000,000 for the Farmer Stress Assistance Network (\$10,000,000 available in 2020)

The Farm and Ranch Stress Assistance Network Program has funded projects that provide stress assistance programs to support individuals who are engaged in farming, ranching, and other agriculture-related occupations and help launch the Farm and Ranch Stress Assistance Network. The establishment of a network that assists farmers and ranchers in time of stress has offered a conduit to improving behavioral health awareness, literacy, and outcomes for agricultural producers, workers and their families. With previous funding, NIFA funded four regional entities to help launch the networks in North Central, Northeast, Southern, and Western regions. Funding in 2021 will support the established networks and additional projects as appropriate that meet Farm Bill requirements.

17. A decrease of \$1,000,000 for Expanded Food and Nutrition Education Program (\$70,000,000 available in 2020).

The Expanded Food and Nutrition Education Program (EFNEP) is a national nutrition education program funded through NIFA and conducted by Cooperative Extension. In 2018, NIFA provided EFNEP funding to 76 land-grant universities. 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.

18. A decrease of \$161,000 for Federally Recognized Tribal Extension Program (FRTEP) (\$3,200,000 available in 2020).

NIFA provides funding through FRTEP 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. FRTEP continues to provide high quality, culturally relevant, science-based programming in 4-H/youth development, agricultural and natural resource management, horticulture, food preservation, and entrepreneurial business development. At the current funding level, FRTEP is

able to serve 36 Extension offices in 19 States, which includes 33 of the 573 Federally Recognized Indian Tribes.

19. A decrease of \$1,554,000 for Extension Services at 1994 Institutions Program (\$8,000,000 available in 2020).

This program supports the 1994 Land-Grants to create extension offices for their reservation communities. Each extension office works with reservation communities to build programs that target local needs such as: 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.

20. A decrease of \$1,000,000 for Rural Health and Safety (\$4,000,000 available in 2020).

Opioid abuse continues to be a public health emergency across the United States and the impact is particularly devastating in rural communities. While healthcare plays a pivotal role in the treatment of addiction and recovery, its prevention education resources are finite, particularly in rural areas. The infrastructure and the expertise within the land-grant university system and Cooperative Extension are in place to address this issue through preventative and educational approaches. The Rural Health and Safety Education Program is the only NIFA funding opportunity which specifically fund projects to improve health in rural communities through a Cooperative Extension outreach model. With this funding request, USDA proposes to support research-informed, outcome-based educational approaches and programs as well as collaborations with the health care system which promote protective factors and reduce the impact of risk factors leading to the prevention of opioid initiation, misuse, and abuse. Funds were used to support the Cooperative Extension Services establish and grow its capacity to address this new health crisis that has devastated American families and rural communities. A decrease is proposed in FY 2021 because new programs have been established and through economies of scale and efficiencies in grant administration, the Cooperative Extension Service can continue to address this crisis at a lower cost.

21. A decrease of \$770,000 to 1890 Facilities Program (\$20,500,000 available in 2020).

This funding has been used to strengthen the quality of teaching, research and extension programs at 1890 Institutions through construction of facilities and acquisition of equipment, including libraries, so that eligible 1890 Land-Grant Universities (LGUs) may participate fully in the development of human capital in the food and agricultural sciences. Annually, each institution receives one award and supports a five-year facility development plan. For example, with recent funding, the new LGU, Central State University in Ohio, acquired land around campus and developed preliminary designs for facilities needed for the Land-Grant Programs. University of Maryland – Eastern Shore used funding to upgrade facilities at the Paul Sarbanes Coastal Ecology center to support their aquaculture research and education programs. This

program is critically needed to help build capacity and serve as an underpinning for the 1890 LGUs to successfully compete for the agency's competitive grant programs.

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

**GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND STAFF YEARS**

**TABLE 1 - FISCAL YEAR 2019  
DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS**

	<u>HATCH ACT AS AMENDED</u>			<u>COOP FORESTRY RSH (MS)</u>	<u>1890 UNIV &amp; TUSK UNIV (EA)</u>	<u>ANIMAL HEALTH &amp; DIS RSCH</u>	<u>SPECIAL AND OTHER GRANTS</u>	<u>COMPETITIVE RESEARCH GRANTS</u>	<u>HIGHER EDUCATION GRANTS</u>	<u>TOTAL FEDERAL FUNDS</u>
<u>STATE</u>	<u>HATCH FORMULA</u>	<u>REGIONAL RESEARCH</u>	<u>TOTAL</u>							
AL	\$ 3,870	\$ 1,190	\$ 5,061	\$ 1,091	\$ 5,386	\$ 50	\$ 609	\$ 5,339	\$ 4,452	\$ 21,989
AK	1,064	196	1,259	578	-	-	-	1,835	101	3,774
AS	1,377	30	1,407	45	-	-	-	300	253	2,005
AZ	1,500	1,035	2,535	394	-	59	902	9,583	202	13,675
AR	3,294	986	4,280	948	2,330	82	1,350	7,373	1,137	17,500
CA	4,633	2,220	6,853	845	-	244	4,091	25,340	2,213	39,586
CO	2,110	1,631	3,741	373	-	269	2,056	12,399	-	18,838
CT	1,583	667	2,250	455	-	14	-	149	-	2,869
DE	1,130	499	1,629	229	1,248	19	-	3,367	951	7,445
DC	751	144	895	-	-	-	-	119	-	1,014
FL	2,977	894	3,872	907	2,163	59	2,301	16,918	1,853	28,072
GA	4,397	1,722	6,119	1,133	3,093	78	7,817	12,301	400	30,940
GU	1,416	168	1,583	106	-	-	-	-	269	1,959
HI	1,113	525	1,638	312	-	6	929	3,019	1,726	7,630
ID	1,918	816	2,734	619	-	55	196	3,036	-	6,641
IL	5,432	1,380	6,812	517	-	47	682	16,791	-	24,849
IN	5,191	1,163	6,355	558	-	63	-	5,253	330	12,559
IA	5,388	2,175	7,563	537	-	259	929	13,544	-	22,833
KS	3,294	1,070	4,363	332	-	153	200	5,246	-	10,294
KY	5,157	1,397	6,554	722	3,691	68	150	4,867	550	16,602
LA	2,976	931	3,906	1,009	2,049	55	-	1,351	495	8,866
ME	1,688	696	2,383	907	-	18	433	5,438	-	9,179
MD	2,209	875	3,084	414	1,565	20	2,354	13,381	1,190	22,007
MA	1,852	854	2,706	435	-	45	-	853	-	4,039
MI	5,212	1,250	6,462	989	-	115	3,910	11,491	786	23,753
FM	1,452	-	1,452	-	-	-	-	-	122	1,574
MN	5,103	1,221	6,324	804	-	166	8,723	10,318	303	26,639
MS	3,767	1,138	4,905	1,071	2,543	62	1,239	4,595	1,190	15,603
MO	5,054	1,091	6,145	702	3,716	84	1,352	3,746	892	16,636
MT	1,851	914	2,765	681	-	40	8,504	2,006	1,428	15,424
NE	3,043	1,248	4,291	250	-	146	428	6,268	232	11,615
NV	1,059	500	1,559	127	-	15	-	9,122	-	10,823
NH	1,361	500	1,861	476	-	10	250	645	-	3,242
NJ	1,845	1,492	3,338	353	-	22	3,820	2,753	-	10,285
NM	1,530	551	2,081	291	-	41	280	2,060	1,038	5,791
NY	4,832	2,137	6,968	845	-	91	-	10,517	1,346	19,768
NC	6,353	1,629	7,982	1,050	4,247	125	-	14,158	-	27,562
ND	2,159	822	2,981	168	-	38	277	2,033	506	6,002
MP	1,368	-	1,368	-	-	-	-	-	-	1,368
OH	6,270	1,323	7,593	640	1,120	91	-	16,423	639	26,506
OK	3,262	809	4,071	599	2,427	78	457	2,583	101	10,317
OR	2,496	1,295	3,790	1,112	-	72	-	5,174	200	10,348
PW	-	-	-	-	-	-	-	-	150	150
PA	5,943	1,686	7,629	763	-	81	-	10,372	-	18,845
PR	3,898	1,002	4,900	86	-	9	-	1,325	2,414	8,734
RI	1,023	518	1,541	147	-	20	-	1,217	-	2,927
SC	3,310	1,056	4,366	866	2,289	19	399	1,299	1,200	10,438
SD	2,315	829	3,144	209	-	67	2,815	3,578	453	10,267
TN	4,884	1,152	6,036	784	3,410	69	600	13,459	2,235	26,593
TX	6,992	1,639	8,631	886	5,168	268	2,147	15,474	5,912	38,486
UT	1,332	1,008	2,340	188	-	25	-	3,168	-	5,721
VT	1,412	439	1,851	496	-	15	7,817	2,762	-	12,942
VI	1,392	161	1,553	45	-	-	-	-	-	1,598
VA	4,156	1,064	5,220	968	2,891	49	310	7,268	2,008	18,714
WA	2,727	1,790	4,518	1,030	-	115	2,525	15,297	131	23,614
WV	2,551	729	3,280	660	1,542	14	-	437	2,624	8,558
WI	5,157	1,362	6,519	825	-	83	2,012	6,004	949	16,392
WY	1,276	729	2,006	312	-	27	-	121	156	2,622
OTHER	-	-	-	-	-	-	-	28,745	5,587	34,332
SBIR	5,709	1,863	7,572	1,054	1,682	123	1,802	8,399	198	20,829
BRAG	-	-	-	-	-	-	3	3,378	-	3,381
FEDERAL ADMIN	5,377	1,698	7,075	1,019	1,626	160	3,030	7,815	2,677	23,401
FED ADMIN-DIRECT	-	-	-	-	-	-	-	-	-	18,435
SUBTOTAL	183,792	59,909	243,701	33,961	54,185	4,000	77,699	401,818	51,598	885,397
UNOBLIG BAL	-	-	-	-	-	-	1,364	481,190	33,847	516,401
TOTAL	183,792	59,909	243,701	33,961	54,185	4,000	79,062	883,008	85,445	1,401,798

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

**TABLE 2 - FISCAL YEAR 2020**

**DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS**

STATE	HATCH ACT	COOP	1890 UNIV	ANIMAL	SPECIAL	OTHER	FED ADMIN	COMPETITIVE	HIGHER	GRANTS	TOTAL
		FORESTRY	& TUSK	HEALTH &		RESEARCH	DIRECT	RESEARCH	EDUCATION	MANAGEMENT	
		<u>RSH (MS)</u>	<u>UNIV (EA)</u>	<u>DIS RSCH</u>	<u>GRANTS</u>	<u>RESEARCH</u>	<u>APPROP</u>	<u>GRANTS</u>	<u>GRANTS</u>	<u>SYSTEMS</u>	<u>FUNDS</u>
FEDERAL ADMIN UNOBLIGATED	7,075	1,080	2,010	160	723	2,592	11,862	21,250	3,092	7,830	57,674
BALANCE	251,925	34,920	64,990	3,840	17,345	62,209	0	403,750	66,211	0	905,190
SUBTOTAL, OBLIGATIONS	259,000	36,000	67,000	4,000	18,068	64,801	11,862	425,000	69,303	7,830	962,864

**TABLE 3 - FISCAL YEAR 2021**

**DISTRIBUTION OF FEDERAL PAYMENTS FOR RESEARCH AT STATE AGRICULTURAL EXPERIMENT STATIONS & OTHER STATE INSTITUTIONS**

STATE	HATCH ACT	COOP	1890 UNIV	COMPETITIVE	SPECIAL	OTHER	FED ADMIN	COMPETITIVE	HIGHER	GRANTS	TOTAL
		FORESTRY	& TUSK	FACILTY MODERN		RESEARCH	DIRECT	RESEARCH	EDUCATION	MANAGEMENT	
		<u>RSH (MS)</u>	<u>UNIV (EA)</u>	<u>LGUs</u>	<u>GRANTS</u>	<u>RESEARCH</u>	<u>APPROP</u>	<u>GRANTS</u>	<u>GRANTS</u>	<u>SYSTEMS</u>	<u>FUNDS</u>
FEDERAL ADMIN UNOBLIGATED	6,603	866	1,615	0	680	1,712	19,346	30,000	2,542	7,924	71,287
BALANCE	236,635	28,001	52,202	0	16,320	41,088	0	570,000	52,452	0	996,699
SUBTOTAL, OBLIGATIONS	243,238	28,867	53,817	0	17,000	42,800	19,346	600,000	54,994	7,924	1,067,986

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

Table 1 for FY 2019

Distribution of Federal Payments for Extension Activities

STATE	SMITH-LEVER	FARM	YOUTH	1890's UNIV	FEDERALLY-RECOGNIZED	FOOD SAFETY				1890	RENEWABLE	INDIAN	TOTAL	
	FORMULA	SAFETY	FARM SAFETY	& TUSK UNIV	TRIBES	EFNEP	OUTREACH PROGRAM	YOUTH AT RISK	NEW TECHNOLOGIES AT AG EXT	FACILITIES	RESOURCES	TRIBAL 1994 COLLEGES	OTHER	FEDERAL FUNDS
AL	\$7,505	-	-	\$4,669	-	\$2,241	-	\$140	-	\$2,087	\$120	-	\$482	\$17,243
AK	1,292	172	0	0	166	267	0	140	0	0	97	125	93	2,352
AS	1,538	0	0	0	0	105	0	0	0	0	0	0	0	1,643
AZ	2,252	0	0	0	568	725	0	0	0	0	62	427	2,841	6,876
AK	6,287	0	0	2,055	0	1,436	0	0	0	991	98	0	2,528	13,394
CA	8,392	180	0	0	0	3,656	685	0	0	0	96	0	3,970	16,979
CO	3,462	180	0	0	0	673	0	280	0	0	58	0	1,536	6,189
CT	2,337	0	0	0	70	547	0	0	0	0	46	0	0	3,001
DE	1,411	0	0	1,265	0	419	0	0	0	768	60	0	879	4,802
DC	1,273	0	0	0	0	112	0	0	0	0	14	0	964	2,362
FL	5,057	0	0	2,017	87	2,451	1,464	0	0	1,005	92	0	7,725	19,897
GA	8,616	180	0	2,787	0	2,409	0	140	0	1,099	108	0	1,434	16,772
GU	1,601	0	0	0	0	105	0	0	0	0	14	0	0	1,720
HI	1,456	0	0	0	0	352	137	0	0	0	96	0	673	2,715
ID	3,099	0	0	0	241	394	0	0	0	0	52	0	0	3,786
IL	10,265	180	0	0	0	2,219	0	0	0	0	105	0	2,548	15,317
IN	9,652	711	100	0	0	1,303	86	93	0	0	54	0	0	11,998
IA	10,097	0	0	0	0	973	914	140	0	0	46	0	2,446	14,617
KS	5,955	180	0	0	0	775	0	500	0	0	46	125	1,339	8,921
KY	9,849	0	0	3,476	0	1,836	0	280	0	1,189	185	0	166	16,981
LA	5,505	0	0	1,823	0	2,023	342	140	0	919	83	0	473	11,308
ME	2,555	180	0	0	0	506	84	170	0	0	59	0	722	4,277
MD	3,604	0	0	1,462	0	1,041	171	0	0	883	60	0	0	7,222
MA	2,879	0	0	0	0	1,053	251	0	0	0	46	0	473	4,703
MI	9,705	180	0	0	80	1,895	0	140	1,488	0	77	575	2,976	17,116
FM	1,672	0	0	0	0	108	0	0	0	0	0	0	0	1,780
MN	9,516	0	0	0	87	1,075	171	1,433	0	0	61	562	2,131	15,036
MS	7,407	0	0	2,171	80	1,864	0	140	0	970	203	0	577	13,412
MO	9,570	180	0	3,575	0	1,745	156	140	0	1,298	87	0	800	17,552
MT	3,013	0	0	0	328	388	0	140	0	0	65	1,260	825	6,019
NE	5,412	180	100	0	0	620	80	140	0	0	46	250	1,660	8,488
NV	1,349	0	0	0	222	297	0	140	0	0	48	0	0	2,057
NH	1,857	0	0	0	0	330	132	0	0	0	46	0	481	2,846
NJ	2,869	0	0	0	79	1,156	0	140	0	0	46	0	0	4,290
NM	2,343	180	0	0	0	605	342	0	0	0	68	375	145	4,057
NY	8,926	0	0	0	0	3,456	257	220	0	0	86	0	1,733	14,677
NC	12,477	178	0	3,941	79	2,750	0	440	0	1,227	105	0	5,428	26,625
ND	3,679	0	0	0	83	427	0	0	0	0	46	1,025	459	5,720
MP	1,522	0	0	0	0	104	0	0	0	0	0	0	0	1,626
OH	11,844	180	100	1,227	0	2,434	86	610	0	1,423	77	0	4,708	22,689
OK	6,121	0	0	2,203	251	1,246	0	300	0	1,086	80	0	0	11,288
OR	4,127	0	0	0	81	609	914	158	0	0	88	0	1,038	7,016
PA	11,175	180	0	0	0	2,733	0	140	0	0	81	0	788	15,097
PR	7,263	0	0	0	0	1,454	86	0	0	0	14	0	560	9,376

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

RI	1,192	0	0	0	0	392	0	0	0	0	46	0	8,921	10,551
SC	6,134	0	0	1,994	0	1,902	0	160	0	8,111	89	0	0	18,391
SD	3,914	180	0	0	0	470	0	0	0	0	46	375	478	5,464
TN	9,517	176	0	3,131	0	2,168	0	0	0	1,193	86	0	0	16,272
TX	14,038	180	0	4,756	0	4,627	0	420	0	1,654	112	0	1,482	27,269
UT	1,938	180	0	0	0	416	0	140	0	0	49	0	415	3,139
VT	2,000	0	0	0	0	324	914	140	0	0	46	0	0	3,424
VI	7,791	0	0	0	0	104	0	170	0	0	14	0	0	8,078
VA	1,566	0	0	2,628	70	1,875	0	160	0	1,087	101	0	3,614	11,100
WA	4,623	0	0	0	173	806	171	0	0	0	83	325	2,197	8,378
WV	4,459	0	0	1,497	0	1,145	170	420	0	905	70	0	0	8,665
WI	9,604	180	0	0	84	1,048	0	140	0	0	80	751	954	12,841
WY	1,769	0	0	0	88	280	0	0	0	0	51	0	0	2,188
PEER PANEL/OTHER	1	8	0	0	0	0	65	5	0	0		13	192	285
<b>SUBTOTAL</b>	<b>306,330</b>	<b>4,126</b>	<b>300</b>	<b>46,675</b>	<b>2,917</b>	<b>68,475</b>	<b>7,680</b>	<b>8,059</b>	<b>1,488</b>	<b>27,895</b>	<b>3,898</b>	<b>6,188</b>	<b>73,857</b>	<b>557,888</b>
FEDERAL														
ADMINISTRATION	8,670	172	13	1,945	122	525	320	336	62	996	162	258	12,766	26,346
<b>SUBTOTAL</b>														
OBLIGATIONS	315,000	4,298	313	48,620	3,039	69,000	8,000	8,395	1,550	28,890	4,060	6,446	86,623	584,234
BALANCE	-	-	-	-	-	-	-	-	-	19,730	-	-	186	19,916
<b>TOTAL</b>	<b>315,000</b>	<b>4,298</b>	<b>313</b>	<b>48,620</b>	<b>3,039</b>	<b>69,000</b>	<b>8,000</b>	<b>8,395</b>	<b>1,550</b>	<b>48,620</b>	<b>4,060</b>	<b>6,446</b>	<b>86,809</b>	<b>604,150</b>

Data may include 2018 obligations posted in 2019

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

Table 2 for FY 2020  
Distribution of Federal Payments for Extension Activities

STATE	<u>FARM SAFETY YOUTH FARM</u>								<u>FOOD AND AG LEARNING SERVICES</u>	
	<u>SMITH-LEVER FORMULA</u>	<u>SAFETY EDUCATION AND CERTIFICATION</u>	<u>1890's UNIV &amp; TUSKEGEE UNIV</u>	<u>FEDERALLY- RECOGNIZED TRIBES</u>	<u>EFNEP</u>	<u>YOUTH AT RISK</u>	<u>NEW TECH AT AG EXT</u>	<u>1890 FACILITIES</u>		<u>RENEWABLE RESOURCES</u>
FEDERAL ADMINISTRATION	\$8,858	\$184	\$2,280	\$128	\$599	\$336	\$62	\$820	\$162	40
UNDISTRIBUTED	306,142	4,426	54,720	3,072	69,401	8,059	1,488	19,680	3,898	960
<b>TOTAL</b>	<b>315,000</b>	<b>4,610</b>	<b>57,000</b>	<b>3,200</b>	<b>70,000</b>	<b>8,395</b>	<b>1,550</b>	<b>20,500</b>	<b>4,060</b>	<b>1,000</b>

  

STATE	<u>RURAL HEALTH &amp; SAFETY</u>	<u>FOOD SAFETY OUTREACH</u>	<u>FEDERAL ADM- SPECIAL PROJECTS</u>	<u>EXTENSION AT 1994 INSTITUTIONS</u>	<u>FOOD ANIMAL RESIDUE AVOIDANCE</u>	<u>WOMEN &amp; POC IN STEM</u>	<u>FARM STRESS ASSISTANCE NETWORK</u>	<u>MANDATORY PROGRAMS a/</u>	<u>TOTAL FEDERAL FUNDS</u>
	FEDERAL ADMINISTRATION	\$160	\$320	\$8,342	\$320	\$100	\$16	400	\$4,554
UNDISTRIBUTED	3,840	7,680	-	7,680	2,400	384	9,600	64,139	567,568
<b>TOTAL</b>	<b>4,000</b>	<b>8,000</b>	<b>8,342</b>	<b>8,000</b>	<b>2,500</b>	<b>400</b>	<b>10,000</b>	<b>68,693</b>	<b>595,250</b>

a/ Mandatory Programs includes: The Gus Schumacher Nutrition Incentive Program, Beginning Farmer and Ranchers Development & Risk Management

Table 3 for FY 2021  
Distribution of Federal Payments for Extension Activities

STATE	<u>FARM SAFETY YOUTH FARM</u>								<u>RURAL HEALTH AND SAFETY</u>
	<u>SMITH-LEVER FORMULA</u>	<u>1890's UNIV &amp; TUSKEGEE UNIV</u>	<u>SAFETY EDUCATION AND CERTIFICATION</u>	<u>FEDERALLY- RECOGNIZED TRIBES</u>	<u>EFNEP</u>	<u>YOUTH AT RISK</u>	<u>NEW TECH AT AG EXT</u>	<u>1890 FACILITIES</u>	
FEDERAL ADMINISTRATION	\$8,235	\$1,945	\$184	\$122	\$559	\$336	\$62	\$789	\$120
UNDISTRIBUTED	291,195	46,675	4,426	2,917	68,441	8,059	1,488	18,941	2,880
<b>TOTAL</b>	<b>299,430</b>	<b>48,620</b>	<b>4,610</b>	<b>3,039</b>	<b>69,000</b>	<b>8,395</b>	<b>1,550</b>	<b>19,730</b>	<b>3,000</b>

  

STATE	<u>RENEWABLE RESOURCES</u>	<u>FEDERAL ADM- SPECIAL PROJECTS</u>	<u>FOOD SAFETY OUTREACH</u>	<u>FARM STRESS ASSISTANCE NETWORK</u>	<u>EXTENSION AT 1994 INSTITUTIONS</u>	<u>WOMEN &amp; POC IN STEM</u>	<u>MANDATORY PROGRAMS a/</u>	<u>TOTAL FEDERAL FUNDS</u>
	FEDERAL ADMINISTRATION	\$162	\$552	\$320	\$320	\$258	\$16	\$4,940
UNDISTRIBUTED	3,898	0	7,680	7,680	6,188	384	70,560	541,411
<b>TOTAL</b>	<b>4,060</b>	<b>552</b>	<b>8,000</b>	<b>8,000</b>	<b>6,446</b>	<b>400</b>	<b>75,500</b>	<b>560,332</b>

a/ Mandatory Programs includes: The Gus Schumacher Nutrition Incentive Program, Beginning Farmer and Ranchers Development & Risk Management

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

TABLE 1 - FISCAL YEAR 2019  
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
AL	-	-	-	\$ 610	-	\$ -	-	\$ 50	\$660
AK	-	-	-	191	-	-	-	-	\$191
AS	-	-	-	-	-	-	-	-	\$0
AZ	-	-	-	285	-	35	-	-	\$320
AR	-	-	-	210	-	50	-	-	\$260
CA	\$840	\$156	\$ 496	1,237	-	5,178	\$ 16,912	50	\$24,869
CO	-	-	-	701	-	-	-	\$ 50	\$751
CT	-	-	-	21	-	-	-	-	\$21
DE	-	-	-	176	-	-	-	-	\$176
DC	-	-	-	-	-	-	-	-	\$0
FL	540	234	-	213	-	8,563	3,394	47	\$12,991
GA	300	509	500	210	-	-	-	-	\$1,519
GU	-	-	-	-	-	-	-	-	\$0
HI	46	-	-	-	-	-	-	-	\$46
ID	-	-	-	175	-	-	-	-	\$175
IL	-	-	-	233	-	-	-	-	\$233
IN	730	-	-	306	-	-	-	2,955	\$3,991
IA	300	-	-	950	-	-	-	3,999	\$5,249
KS	540	-	-	277	-	-	-	-	\$817
KY	137	-	-	158	-	-	-	-	\$295
LA	-	-	-	-	-	-	-	-	\$0
ME	-	-	-	209	-	-	-	-	\$209
MD	-	-	711	285	-	-	-	-	\$996
MA	-	-	-	623	-	-	-	-	\$623
MI	900	-	500	1,231	\$ 475	2,705	-	-	\$5,811
FM	-	-	-	-	-	-	-	-	\$0
MN	-	-	-	240	-	9,417	-	956	\$10,613
MS	-	-	-	171	475	-	-	-	\$646
MO	346	-	-	204	-	-	-	-	\$550
MT	-	-	-	300	-	-	-	-	\$300
NE	-	-	-	227	-	-	-	-	\$227
NV	-	-	-	248	-	-	-	-	\$248
NH	-	-	-	163	-	-	-	-	\$163
NJ	137	-	-	-	-	5,833	-	-	\$5,970
NM	-	-	-	219	-	-	-	-	\$219
NY	916	-	167	1,810	-	3,673	-	2,547	\$9,113
NC	300	-	-	1,635	-	7,400	-	2,000	\$11,335
ND	-	-	-	179	-	-	-	-	\$179
MP	-	-	-	-	-	-	-	-	\$0
OH	300	-	-	579	-	-	-	1,777	\$2,656
OK	-	-	-	129	-	-	-	50	\$179
OR	-	-	486	617	-	48	-	42	\$1,193
PA	300	-	1,344	782	475	11,068	-	-	\$13,969
PR	-	-	-	115	-	-	-	-	\$115
RI	-	-	-	-	-	39	-	-	\$39
SC	-	-	-	209	-	3,419	-	-	\$3,628
SD	-	-	-	-	-	-	-	-	\$0
TN	-	500	497	236	-	-	-	-	\$1,233
TX	46	-	500	294	-	2,447	-	-	\$3,287
UT	-	-	-	450	475	-	-	-	\$925
VT	-	-	-	284	-	-	-	1,920	\$2,204
VI	-	-	-	-	-	-	-	-	\$0
VA	-	492	-	210	-	-	-	-	\$702
WA	300	-	-	624	-	6,435	-	-	\$7,359
WV	46	-	-	103	-	-	-	-	\$149
WI	-	-	-	272	-	-	3,009	2,000	\$5,281
WY	137	-	-	190	-	-	-	-	\$327
BRAG	-	8	-	17	-	358	341	108	\$833
SBIR	-	21	61	205	20	1,153	384	205	\$2,049
PEER PANEL/OTHER	-	-	498	187	-	4,217	26	444	\$5,372
FED ADMIN	320	80	240	800	80	3,002	1,000	800	6,322
SUBTOTAL	7,481	2,000	6,000	20,000	2,000	75,040	25,066	20,000	157,588
UNOBLIGATED BALANCE	199	0	0	0	0	0	0	0	199
TOTAL	7,680	2,000	6,000	20,000	2,000	75,040	25,066	20,000	157,787

2021 USDA EXPLANATORY NOTES – National Institute of Food and Agriculture (NIFA)

**TABLE 2 - FISCAL YEAR 2020**  
**INTEGRATED PROGRAMS**

STATE	Methyl Bromide	Organic Transition Risk Assessment	Crop Protection/Pest Management Programs	Rural Development Centers	Homeland Security	Organic	Specialty Crops Research Initiative	Emergency	TOTAL FEDERAL FUNDS
						Research and Extension Initiative		Citrus Disease Research and Extension Trust Fund	
SBIR	20,480	61,440	204,800	20,480	-	192,717	1,156,301	361,344	2,017,562
BIOTECH RISK	8,329	-	16,657	-	-	108,274	358,138	341,841	833,239
FEDERAL ADMIN OBLIGATED	80,000	240,000	800,000	80,000	320,000	752,800	3,011,200	941,000	6,225,000
UNOBLIGATED	1,891,191	5,698,560	18,978,543	1,899,520	7,680,000	17,766,209	70,754,361	21,880,815	146,549,199
<b>TOTAL</b>	<b>2,000,000</b>	<b>6,000,000</b>	<b>20,000,000</b>	<b>2,000,000</b>	<b>8,000,000</b>	<b>18,820,000</b>	<b>75,280,000</b>	<b>23,525,000</b>	<b>155,625,000</b>

**TABLE 3 - FISCAL YEAR 2021**

STATE	Methyl Bromide	Organic Transition Risk Assessment	Crop Protection/Pest Management Programs	Rural Development Centers	Homeland Security	Organic	Specialty Crops Research Initiative	Emergency	TOTAL FEDERAL FUNDS
						Research and Extension Initiative		Citrus Research and Extension Trust Fund	
SBIR	20,480	61,440	204,800	20,480	-	256,000	1,228,800	384,000	2,176,000
BIOTECH RISK	8,329	-	16,657	-	-	108,274	358,132	341,481	832,873
FEDERAL ADMIN OBLIGATED	80,000	240,000	800,000	80,000	320,000	1,000,000	3,200,000	1,000,000	6,720,000
UNOBLIGATED	1,891,191	5,698,560	18,978,543	1,899,520	7,680,000	23,635,726	75,213,068	23,274,519	134,996,608
<b>TOTAL</b>	<b>2,000,000</b>	<b>6,000,000</b>	<b>20,000,000</b>	<b>2,000,000</b>	<b>8,000,000</b>	<b>25,000,000</b>	<b>80,000,000</b>	<b>25,000,000</b>	<b>168,000,000</b>

**CLASSIFICATION BY OBJECTS**

Item No.	Item	2018 Actual	2019 Actual	2020 Enacted	2021 Budget
Personnel Compensation:					
	Washington D.C.	\$35,747	\$27,938	\$2,280	\$2,023
	Personnel Compensation, Field	-	-	26,217	26,883
11	Total personnel compensation	35,747	27,938	28,497	28,907
12	Personal benefits	11,764	13,442	13,711	14,381
13.0	Benefits for former personnel	-	45	15	-
	Total, personnel comp. and benefits	47,511	41,425	42,223	43,288
Other Objects:					
21.0	Travel and transportation of persons	2,385	1,844	1,881	2,257
22.0	Transportation of things	6	517	543	554
23.1	Rental payments to GSA	5,292	5,868	3,073	-
23.3	Communications, utilities, and misc. charges	1,362	1,477	1,507	1,544
24.0	Printing and reproduction	193	221	225	230
25.1	Advisory and assistance services	9,781	11,952	12,311	12,557
25.2	Other services from non-Federal sources	337	590	608	620
25.3	Other goods and services from Federal sources	1,000	6,354	6,545	7,854
25.4	Operation and maintenance of facilities	2,466	3,243	3,308	3,452
25.5	Research and development contracts	16,346	9,529	9,909	10,011
25.7	Operation and maintenance of equipment	28	35	36	36
25.8	Subsistence and support of persons	1,647	133	136	138
26.0	Supplies and materials	115	66	100	100
31.0	Equipment	139	7	660	670
41.0	Grants, subsidies, and contributions	1,484,343	1,560,087	2,327,668	1,718,206
	Total, Other Objects	1,525,440	1,601,923	2,368,508	1,758,229
99.9	Total, new obligations	1,572,951	1,643,348	2,410,730	1,801,517
	DHS Building Security Payments (included in 25.3)	\$815	\$993	\$331	\$331
Position Data:					
	Average Salary (dollars), ES Position	\$193,135	\$191,343	\$195,170	\$197,122
	Average Salary (dollars), GS Position	\$115,590	\$111,533	\$113,764	\$114,901
	Average Grade, GS Position	12.3	12.3	12.0	12.0

**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 2018, 3.2 percent of FY 2019, 3.2 percent of FY 2020, and 3.2 percent of FY 2021 for extramural research and development funds within the Department are set-aside and used to fund the SBIR program.

Table NIFA-15. Funding for SBIR by Agency (thousands of dollars)

Agency	2018	2019	2020	2021
Agricultural Research Service.....	\$1,939	\$2,810	\$3,421	\$3,421
Animal and Plant Health Inspection Service .....	31	31	31	31
National Institute of Food and Agriculture.....	25,194	20,292	25,935	28,445
Economic Research Service ...	93	122	62	62
Forest Service.....	731	962	1,200	1,200
National Agriculture Statistics Service	32	17	32	32
Total .....	28,021	24,234	30,681	33,191

\*Estimates are provided for 2020 and 2021. A report to the Small Business Administration for planned investments in 2020 and 2021 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. Conservation of Natural Resources. Research proposals are solicited to develop technologies for the conservation of soil, water, air and other natural resources on landscapes that produce agricultural, natural and forest/rangeland goods and services.
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.

## **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 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://nifa.usda.gov/afri-request-applications>.

The Expected FY 2021 RFA Publication Dates for AFRI are July 2020 for the Foundational and Applied Science and the Education and Workforce Development RFAs and January 2021 for the Sustainable Agricultural Systems RFA. The earlier release dates for the Foundational and Applied Science and Education and Workforce Development programs result from NIFA's release of a single funding opportunity announcement for each RFA spanning three years of appropriations (i.e., FY 2021, FY 2022 and FY 2023). In contrast, the yearly Sustainable Agricultural Systems RFA will span a single year of appropriations to reflect the changing goals of the program. 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 2021 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. Agricultural research results in increased production efficiencies,

transformative technologies, sustainable supply of affordable and nutritious food and provides the basis for data-driven agricultural policy. 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 livestock and crop production systems, farm profitability, 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 crosscutting programs which support interdisciplinary work in two or more AFRI Farm Bill priorities to generate knowledge to position U.S. agriculture at the global forefront, including 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.

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 2021 Administration Research and Development Budget Priorities for ensuring American prosperity.

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Agriculture and Food Research Initiative Requests for Applications

In FY 2021, 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 2021.

<b>FY 2021 President's Budget</b>	
<b>Program</b>	<b>New Grant Awards</b>
Agriculture and Food Research Initiative	\$600,000,000

The NIFA 2021 budget proposes to support the AFRI program at \$600,000,000, which includes:

- Increased support (\$100 million) for Artificial Intelligence (AI) to be included in the Foundational and Applied Science, Sustainable Agricultural Systems, and Education and Workforce Development programs;
- Increased support (\$11 million) for new investigators in the Foundational and Applied Science program;
- Increased investment in the Sustainable Agricultural Systems program, to support innovative, transformative, integrated, and transdisciplinary systems-level approaches to improve production systems for food, feed, fiber and biomass feedstock and to address challenges impacting agricultural production systems, including farm profitability;
- Increased investments in the Education and Workforce Development program for STEM education and for training and retraining of agricultural workers to develop a technology- and data-savvy agricultural workforce;
- Increased support for Plant and Animal Breeding, including adaptation to climate variability;
- Additional support for research on application of emerging advanced technologies such as gene editing and robotics, to support Industries of the Future;
- Continued support for high priority areas including production agriculture, resilient and climate-smart farming systems, soil health, agricultural biosecurity, food and agricultural microbiomes, and pollinator health; and
- 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 66.6% of appropriated AFRI funds to support 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 robotics, unmanned aerial systems, cyberphysical systems and application of big data. NIFA proposes to again increase 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 to climate variability, and development of public cultivars. Substantial increases will be made through interagency programs for the application of artificial intelligence to agriculture. Additional areas of investments are aligned with the FY 2021 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, autonomous systems and machine learning for agricultural applications such as robotics to address labor shortages in farming, and production of new agriculture-based products. Enhanced investments will also foster research on agricultural biosecurity; on precision livestock farming; on the microbiome of foods, food animals, plants, and soils; and on strategies to mitigate antimicrobial resistance. Increased funding for new investigators to support the next generation of scientists and educators will ensure America’s food security as well as its preeminence in the agricultural and food science. Increased funding will also be used for substantial investments in the application of artificial intelligence to agriculture and food systems through the typical AFRI grants as well as through a major interagency activity.

Request for Applications (RFA)	New Grant Awards
Foundational and Applied Science Program	\$399,551,000

**Sustainable Agricultural Systems RFA** | In FY 2021, NIFA will invest 23.8% of appropriated funds 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

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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, 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:

- Sustainable agricultural intensification: *Ensure sustainable food supply with responsible use of resources and minimal environmental impacts using technology, artificial intelligence, regenerative agriculture, and protection of plant and animal production from pests and diseases;*
- Agricultural climate adaptation: *Allow unmanaged and managed systems to be fully leveraged for mitigating and adapting to climate change through plant and animal breeding for resilience to climate changes and through improved soil health by managing microbiomes, water, and nutrients in agricultural production systems at farm, regional or landscape scales in the context of land ownership, conservation policy, and other socioeconomic factors;*
- Food and nutritional translation: *Supply high-quality, nutritious foods while reducing foodborne illnesses; improving diets and nutritional choices; providing better access to nutritious foods in low income households; and increased efficient processing, packaging, and repurposing to minimize food waste.*
- Value-added innovation: *Produce higher value end products from agricultural byproducts, emerging crops, livestock and forest feedstocks which will enable new markets, establish new domestic supply-chains, and create more jobs and economic opportunities for rural communities.*

Investments in systems-level coordinated agricultural 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.

In addition to the large Coordinated Agricultural Projects, NIFA will offer opportunities for mid-size predictive science grants as a part of this program. Predictive science based on artificial intelligence will advance our knowledge of the dynamics, changing forces, and sources related to predictability of the agricultural production system across all scales by using a diversity of qualitative and quantitative approaches. This effort will integrate information from diverse sources to allow producers to make informed decisions and take potentially game-changing actions to drive innovation in addressing one of the goals listed above.

<b>Request for Applications (RFA)</b>	<b>New Grant Awards</b>
Sustainable Agricultural Systems Program	\$142,857,000

**Education and Workforce Development RFA** | NIFA will invest 9.6% 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) training or retraining of agricultural workers to develop a technology- and data-savvy workforce, ready for the field and industrial jobs; 3) 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; 4) providing informal education platforms for providing unbiased information about new technologies, such as gene editing and artificial intelligence to general public, and 5) 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 the availability of qualified agricultural workers within the United States and will encourage training in the application of artificial intelligence to agricultural challenges in all of its components.

<b>Request for Applications (RFA)</b>	<b>New Grant Awards</b>
Education and Workforce Development	\$57,591,000

**Table 1. Funding allocations by Request for Applications for the FY 2021 President’s Budget for the Agriculture and Food Research Initiative (AFRI).**

<b>FY 2021 President’s Budget</b>	
<b>Program</b>	<b>New Grant Awards</b>
Agriculture and Food Research Initiative	\$600,000,000
<b>Request for Applications (RFA)</b>	
Foundational and Applied Science Program <sup>1</sup>	\$399,551,000
Sustainable Agricultural Systems Program	\$142,857,000
Education and Workforce Development	\$57,591,000

<sup>1</sup> 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 2021 President’s Budget for the Agriculture and Food Research Initiative (AFRI).**

<b>FY 2021 President’s Budget</b>				
<b>Farm Bill Priority Area</b>	Agriculture and Food Research Initiative	<b>RFA Topic Area</b>		
		Foundational and Applied Science	Sustainable Agricultural Systems	Education and Workforce Development
A. Plant Health and Production and Plant	27%	25%	30%	29%
B. Animal Health and Production and Animal	21%	21%	24%	22%
C. Food Safety, Nutrition, and Health	15%	14%	15%	20%

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D. Bioenergy, Natural Resources, and Environment	12%	13%	11%	14%
E. Agriculture Systems and Technology	15%	17%	10%	15%
F. Agriculture Economics and Rural Communities	10%	10%	10%	10%

*Table 3. Funding allocations by Request for Applications for FY 2017 to FY 2020 appropriations, and FY 2021 President's Budget for the Agriculture and Food Research Initiative (AFRI).*

<b>AFRI Program Areas</b>	<b>2017 Enacted</b>	<b>2018 Enacted</b>	<b>2019 Enacted</b>	<b>2020 Enacted</b>	<b>2021 President's Budget</b>
Sustainable Agricultural Systems Program	---	87,912,000	98,901,000	98,901,000	140,000,000
Sustainable Bioenergy Challenge Area	27,963,000	8,269,000 <sup>1</sup>	---	---	---
Climate Variability and Change Challenge	15,492,000	---	---	---	---
Water for Food Production Systems	61,497,000	17,052,000 <sup>1</sup>	---	---	---
Childhood Obesity Prevention Challenge	21,893,000	8,676,000 <sup>1</sup>	---	---	---
Food Safety Challenge Area	17,198,000	4,910,000 <sup>1</sup>	---	---	---
<b><i>SUBTOTAL</i></b>	<b><i>144,043,000</i></b>	<b><i>126,819,000</i></b>	<b><i>98,901,000</i></b>	<b><i>98,901,000</i></b>	<b><i>142,857,000</i></b>
Foundational and Applied Science Program	210,105,000	246,667,000	272,620,000	279,709,000	399,551,000
Education and Workforce Development Program	20,852,000	26,511,000	43,479,000	46,390,000	57,591,000
<b><i>Total</i></b>	<b><i>375,000,000</i></b>	<b><i>400,000,000</i></b>	<b><i>415,000,000</i></b>	<b><i>425,000,000</i></b>	<b><i>600,000,000</i></b>

<sup>1</sup> Funding for Challenge Areas in FY 2018 was for existing grants only.

**OTHER COMPETITIVE PROGRAMS RFAS**

**OTHER COMPETITIVE PROGRAM RFAS**

Non-AFRI competitive programs Requests for Applications are listed below. FY 2020 estimates for discretionary funding are based on the FY 2020 Full-Year Appropriations. Programs funded by mandatory funding are included based on the Agriculture Improvement Act of 2018 (2018 Farm Bill). FY 2020 mandatory funding reflects the impact of a 5.9 percent sequestration reduction.

Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 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)	<p>The FY 2020 RFAs will provide continuation funding for four regional centers and one national coordination center which were identified in FY2018 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.</p> <p>The FY 2021 RFA will continue funding the centers for competitively reviewed projects to help farmer,</p>	\$37,000	\$37,000	<p>2020: April 30, 2020</p> <p>2021: February 1, 2021</p>

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
		ranchers, and foresters to adopt sustainable agricultural practices.			
Methyl Bromide	7 U.S.C. 7626	<p>The FY 2020 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 deliver economically viable short- to medium-term solutions for all commodities impacted by the loss of methyl bromide.</p> <p>The FY 2021 RFA will consist of continued funding of the development of practical pest management alternatives for commodities and uses affected by the methyl bromide phase-out. Program priorities will be adjusted based on an assessment of stakeholder needs.</p>	\$2,000	\$2,000	2020: February 2020  2021: February 2021
Minor Crop Pest Management Program – Interregional Research Project #4 (IR-4)	7 U.S.C. 3157(c) (Formerly 7 U.S.C. 450i(c). 7 U.S.C. 450i was transferred to 7 U.S.C. 3157)	The FY 2020 RFA will focus on continued 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).	\$11,913	\$17,000	2020: February 2020  2021: March 2021

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
		<p>The FY 2021 RFA will support an additional 22 pesticide data projects per year as well as additional biopesticide and organic projects. The data projects will generate research results needed for the registration of pesticides that are lower risk, effective and economical. In addition, the IR-4 program will support research efforts that address the priorities established by the Executive Order on Modernizing the regulatory framework for agricultural biotechnology products. Increased funding will also be used to expand the IR-4 program’s harmonization activities with America’s key trading allies. Unlike most major crops, many American specialty crops have difficulty reaching lucrative international markets due to the lack of a harmonized pesticide approval system between our trading partners. Program investments will be guided by a priority-setting process that engages commodity producers, state and Federal research scientists, and cooperative extension specialists.</p>			
Organic Transition Program (ORG)	7 U.S.C. 7626	<p>The FY 2020 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</p>	\$6,000	\$6,000	<p>2020: November 21, 2019</p> <p>2021: November 11, 2020</p>

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
		<p>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 recommended for removal from NOP’s National List of Allowed and Prohibited substances.</p> <p>The FY 2021 RFA will include priorities similar to the FY 2020 priorities.</p>			
Crop Protection/Pest Management	7 U.S.C. 7626	<p>The FY 2020 and 2021 RFAs 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.</p>	\$20,000	\$20,000	<p>2020: February 2020</p> <p>2021: March 2021</p>
Specialty Crop Research Initiative	7 U.S.C. 7632	<p>The FY 2020 and FY 2021 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</p>	\$75,280	\$80,000	<p>2020: August 12, 2019</p> <p>2021: October 2020</p>

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
		applications address one of the five legislatively mandated focus areas.			
Emergency Citrus Disease Research and Extension Program (ECDRE)	7 U.S.C. 7632(j)	Option 1 version: The FY 2020 and FY 2021 RFAs will support three types of projects designed to provide citrus growers with effective management strategies for citrus greening; applicants will decide which project type is best suited to the research and extension efforts they propose to undertake. Standard projects will support research and extension efforts focused on specific aspects of the disease organism or its insect vector. Cooperative agricultural projects will provide support to consortia or groups of qualified applicants with the expectation that the project will make significant contributions to the sustainability of the system or system component. A research and development coordination project will facilitate regional and national coordination of research and extension activities, assesses progress, and identifies priority needs for future research and extension efforts.	\$23,525	\$25,000	2020: February 2020  2021: February 2021
Farming Opportunities	Section 12301 of the 2018 Farm	The FY 2020 and FY 2021 BFRDP RFA's will continue to focus on education and training through standard grants and educational enhancement grants with the	\$14,115	\$17,500	2020: December 16, 2019

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
Training and Outreach (FOTO)/ Beginning Farmer and Rancher Development Program (BFRDP) (Mandatory Funds)	Bill; 7 U.S.C. 2279(d)	reauthorized and new 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. Criteria for consideration of waiving matching fund requirements will be included in the RFA's.			2021: December 2020
FOTO/BFRDP (Discretionary Funding)	7 U.S.C. 2279(d); Section 772 of the Further Consolidated Appropriations Act, 2020	The FY 2020 RFA will address the same goals as described earlier.  The 2021 President's budget does not include discretionary funds for this program.	\$2,500	\$0	2020: May 2020
Organic Agriculture Research and Extension Initiative (OREI)	7 U.S.C. 5925b(a)	The FY2020 and FY2021 RFAs 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	\$18,820	\$25,000	2020: November 26, 2019  2021: November 18, 2020

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
		<p>international trade opportunities for organically grown and processed agricultural commodities, (4) Determining desirable traits for organic commodities, (5) Identifying marketing and policy constraints on the expansion of organic agriculture, (6) Conducting advanced on-farm research and development that emphasizes observation of, experimentation with, and innovation for working organic farms, including research relating to production and marketing, food safety, socioeconomic conditions, and farm business management, (7) Examining optimal conservation, soil health, and environmental outcomes relating to organically produced agricultural products, (8) Developing new and improved seed varieties that are particularly suited for organic agriculture.</p>			
<p>Scholarships for Students at 1890 Institutions (Mandatory Funds)</p>	<p>7 U.S.C. 3222a</p>	<p>The 2018 Farm Bill provided \$40 million to support the program, with up to \$10 million per year to be used for Scholarships.</p> <p>Through the FY 2020 and FY 2021 RFAs, the program will provide scholarships to outstanding students at 1890 institutions to pursue and complete baccalaureate degrees in the food and agricultural sciences and related fields that would lead to a highly skilled food and agricultural systems workforce.</p>	<p>(\$10,000 from carryover funds, 2019)</p>	<p>(\$10,000 from carryover funds, 2019)</p>	<p>2020: FY 2020 RFA opened on September 10, 2019 and closed on November 8, 2019</p> <p>2021: May 2021</p>

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Program	Authority	Scope of RFA and Budget Justification	2020 Estimate (\$000s)	2021 Budget (\$000s)	RFA Dates
Scholarships for Students at 1890 Institutions (Discretionary Funds)	7 U.S.C. 3222a	Through the 2020 and 2021 RFAs, the program will provide scholarships to outstanding students at 1890 institutions to pursue and complete baccalaureate degrees in the food and agricultural sciences and related fields that would lead to a highly skilled food and agricultural systems workforce.	\$5,000	\$10,000	2020: February 2020  2021: May 2021
Gus Schumacher Nutrition Incentive Program	7 U.S.C. 7517	Funding for the FY 2020 and FY 2021 Gus Schumacher Nutrition Incentive Program, formerly known as the Food Insecurity Nutrition Incentive Program, will be used for the incentive programs focusing on increasing fruit and vegetable consumption among Supplemental Nutrition Assistance Program (SNAP) participants, and funding the Produce Prescription Programs. 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. Funds for the Training & Technical Centers will be used for methods development for the collection and evaluation of data from grantees and provide training and technical assistance.	\$45,168	\$48,000	2020: May 1, 2020  2021: May 1, 2021

## STATUS OF PROGRAMS

### **National Institute of Food and Agriculture Activities**

The National Institute of Food and Agriculture (NIFA) invests in and advances agricultural research, education, and extension to solve societal challenges. Our vision is to catalyze transformative discoveries, education, and engagement to address agricultural challenges. We accomplish this by integrating research, education, and extension to ensure that groundbreaking discoveries in the food, agricultural, natural resource, and human sciences go beyond the laboratory and make their way into the classroom and to people who can put knowledge into practice and improve their lives.

NIFA collaborates with leading scientists, policymakers, experts, and educators in organizations throughout the world to find innovative solutions to the most pressing local and global problems. Through its work with 1862 and 1890 land-grant universities, Hispanic-serving institutions, 1994 land-grant colleges, and other institutions across the nation, NIFA ensures diverse audiences are supported. With an integrated approach that includes collaboration with other federal science agencies, NIFA also serves as a vital contributor to science policy decision-making.

### *Selected Examples of Recent Progress*

#### *Hatch Act*

Scientists at the University of Illinois developed new hybrids of purple corn containing different combinations of phytochemicals that may fight obesity, inflammation, and diabetes, according to a new study in mice. The pericarp – or outer layer – of purple and other brightly colored corn kernels also may provide an alternative source of colorants for food products, giving corn producers another value-added product from their crop.

#### *McIntire-Stennis Cooperative Forestry*

As the Forests of New Hampshire give way to urban development and agriculture, the concentration of nitrogen, sodium, and chloride in New Hampshire groundwater and local streams have risen, threatening critical sources of drinking water for residents. A research team from the University of New Hampshire evaluates the impact of deforestation, climate variability, and extreme weather events on water quality in the Lamprey River watershed. Their longitudinal data, supplemented by data from the U.S. Geological Survey, assist local communities and planners to make more informed decisions regarding forest preservation and the placement of new housing developments.

#### *Evans-Allan*

Fort Valley State University researchers demonstrated that reducing fat levels in goat cheese, yogurt, and ice cream did not sacrifice product quality or consumer acceptability, creating opportunities for the dairy goat industry to increase profits and sustainability. The addition of small amounts of xanthan and locust bean produced the best improvement in texture. Reduced fat ice cream did not lose its texture after freezing for eight weeks, making it a viable product for shipping and long-term storage.

#### *AFRI*

Lost nitrogen from 10 Midwest states totals nearly \$1 billion of wasted fertilizer and 6.8 million metric tons of greenhouse gas emissions annually. The pressure to increase crop yields for greater economic

return leads to excessive fertilizer use despite its economic and environmental cost. Precision technology, which can reduce fertilizer usage by applying it at variable rates based on local conditions, has not yet been widely adopted. To fill this gap, a multi-disciplinary team at Michigan State University upgraded traditional crop system models to help farmers pinpoint specific parts of their fields that consistently produce either good or bad yields. Since much of the fertilizer added to low-yielding areas goes unused and is lost to the environment, farmers who use the models will reduce the amount of wasted fertilizer and save money.

The Dairy Coordinated Agricultural Project, led by the University of Wisconsin-Madison, examined dairy production systems across the Great Lakes region to identify ways greenhouse gases (GHG) can be mitigated. The 100-person research team found that dairy farmers can reduce emissions by altering their feeding strategies and manure management practices and selecting breeds that more efficiently convert feed to milk. Manure management represents the second largest source of GHG emissions on a dairy farm, after enteric fermentation (methane emitted directly from the animal). Methane emissions from dairy manure are responsible for 7 percent of global and 8 percent of U.S. agricultural methane emissions, respectively. The proposed changes in manure management also can help farmers improve pasture soils and reduce the need for additional fertilizer applications.

Managed honey bee colonies in the United States have been dying at high rates for the last 10 years. These high rates of losses are a concern for both beekeepers and the farmers who rely on a healthy honey bee population to pollinate their crops. Over \$16 billion of produce in the United States relies on managed honey bees for pollination. Led by the University of Maryland, the Bee Informed Partnership, surveyed beekeepers across the United States, their management practices, and operational losses of bees to identify best management practices. While multiple factors contribute to poor bee health, the project focuses on factors within the control of beekeepers. Researchers have found that beekeepers who routinely test hives for parasite and disease loads are more willing to adopt best practices and, by doing so, reduce their losses.

Researchers at Oregon Health and Science University, concerned with the quality of food in schools and at nearby convenience stores, engaged 4-H youth clubs in Union County to test whether educational activities and outreach could lead to healthier food environments for students. The project aimed to reduce the use of food as incentives or rewards or, when used in the classroom, help teachers choose healthy options. Teachers at the schools where educational activities occurred reduced their use of food as incentives and rewards for learning overall; where food was used in the classroom, teachers opted for more healthy choices. Education and outreach to store owners achieved similar results. Where store owners found it difficult to supply healthy snacks because distributors did not carry the items, students and leaders engaged a major food retailer to supply the stores.

#### *Tribal Colleges Research Grants Program*

Native Americans, such as the Lummi People in northwest Washington, whose subsistence diet includes shellfish, can be particularly vulnerable to algal toxin in shellfish. They routinely test shellfish for these toxins, like paralytic shellfish poisoning prior to consumption. To enhance the routine monitoring done by the Lummi, Northwest Indian College (NWIC) has implemented a weekly

phytoplankton, water quality, and shellfish toxin testing at Lummi Nation’s Gooseberry Point Dock. This testing provides early evidence of toxin contamination and helps Lummi Department of Natural Resources (DNR) with the needed information to make decisions about closing down shellfish harvesting. With this project NWIC has about 20 months of toxin data and is working with Lummi DNR to increase awareness within the community about algal toxins.

#### *Small Business Innovation Research*

Rose Rosette Disease (RRD) threatens to decimate the U.S. rose industry and severely impact the multi-billion-dollar nursery and landscape industry. RRD is spread across long distances by wind borne mites. Nova Flora, of Pennsylvania, used gene transfer technology, and other advanced techniques, to create 26 genetically different lines of rose seedlings containing RRD resistance genes. In addition, they developed the methods and tissue culture needed to move toward commercial production.

#### *Higher Education Programs*

##### 1890 Institutions Capacity Building Grants

The rural, poverty-stricken community of Sylvester, Georgia, with a population of less than 6,200, is bridging arts and agriculture to create the world’s largest sculpture that feeds people. Agricultural researchers and 4-H extension staff at Fort Valley State University combine aeroponic technology with a bee farm, banana farm, and integrated black plastic research to grow traditional crops that feed more than 1,000 households annually for free. The project affects Georgia’s underserved-at-risk-minority youth and their families with quality healthy living education and experiential learning opportunities while improving dietary choices and increasing physical fitness.

##### Hispanic Serving Institutions Education

The Ecological Restoration in a Changing World project at California State University trained undergraduate students in ecological restoration and exposed a broader age group to natural resource management and climate change. Some students work in resource management, at both the federal and state levels. Others have pursued further education in the field or their teaching credentials. Summer workshops on plant biology and local ecology for elementary school teachers (K-5) represented 12 elementary schools, nine of them with over 80 percent of the student population from under-represented groups.

##### Tribal Colleges Education Equity Grants

In Montana, the Salish Kootenai College modified its Environmental Science degree program to increase the focus on wildlife biology. The College created a Workforce Certificate in Geospatial Science which is open to both students and local current professionals. A total of seven Workforce Certifications in Geospatial Science were awarded.

##### Alaska Native-Serving and Native Hawaiian-Serving Institutions

The University of Hawaii created a comprehensive agriculture program, engaging students in the multidisciplinary analysis of the food and farming system of Hawaii, the U.S., and globally. There are 100 students in the agricultural program, 41 percent of whom are native Hawaiian, and 70 percent are women. Additionally 23 disadvantaged students received \$1,000 in stipends to complete the program.

The program covers agroecology, political science, epidemiology, food security, ethics, traditional ecological knowledge, and indigenous resource management.

The Drumbeats Alaska Collaborative, consisting of seven rural campuses of the University of Alaska, strengthens the sustainability and development of rural Alaskan communities. Faculty and students from six science programs work to enhance local food and energy security, enhance formal, informal, and indigenous knowledge, increase rural leadership in resource stewardship, and increase collaboration around subsistence knowledge and practice. Projects have resulted in greater protection of at-risk wild-harvested plants through sustainable harvesting practices; developed new heating systems that lower costs to households and reduce reliance on fossil fuels; and invested in new rural-based businesses, such as the raising and selling of reindeer meat.

#### Grants for Insular Areas

The University of the Virgin Islands (UVI) created a water quality and science, technology, engineering and mathematics (STEM) education in-school program, the Water Quality Ambassador Program. UVI faculty collaborated with professors at University of Puerto Rico, Mayaguez. This program created a peer-to-peer mentoring program, alongside researchers, to engage youth in citizen science and to help more students pursue college degrees or careers in STEM fields. Youth participated in field work and site visits involving water and soil quality testing in more than 200 homes. The water quality testing was critical in the aftermath of the two Category 5 hurricanes that hit the U.S. Virgin Islands in 2017.

#### VMLRP

In FY 2019, \$8 million was appropriated to the VMLRP to repay educational loans for eligible veterinarians in return for service in one of the 190 areas of the United States lacking sufficient veterinary resources. Studies indicate significant and growing shortages of large animal veterinarians, with a leading cause of the shortage being the heavy cost of training. According to the American Veterinary Medical Association, the average educational debt for 2016 veterinary school graduates was \$143,757. To relieve the financial burden and retain rural veterinarians in areas where they can help agricultural biosecurity, animal health, food safety and public health, this program incentivizes veterinarians, including new graduates, to commit to three years of veterinary service in a designated veterinary shortage area. In FY 2019, 75 award offers in 30 States were made to participants. Another 73 awards will be made in FY 2020.

#### *Smith-Lever 3(b) and (c)*

Because they spend too much and save too little, many Tennesseans will not have enough money to live securely throughout life. The University of Tennessee Extension programs focus on assisting residents in the state to increase their saving, build assets, reduce dependence on credit, and discharge debt. Counties that offered this program reported 95,656 total direct educational contacts. Follow-up data indicates that among extension clientele participating in consumer education programs, more are attempting to save and reduce debt. The annual estimated economic impact of clientele savings totaled more than \$19 million with debt reduction estimates of approximately \$6,418 million.

#### *Smith-Lever 3(d)*

### EFNEP

Roughly 30 percent of residents in Meade County, Kentucky struggle with obesity. Meade County Head Start partnered with EFNEP staff to offer a seven-week Healthy Choices for Every Body Program for parents whose children were in the Head Start program. Within Meade County, only 11 percent of residents consume the daily recommended amount of fruits and vegetables. Processed and pre-packaged food items are a staple in many homes. The classes offered participants an opportunity to learn about nutrition, food safety, meal planning, and food budgeting. They also received recipes and kitchen items to help with preparation. At the completion of the course, 64 percent of participants reported that they improved their diet, 75 percent improved their food safety practices, and 83 percent are cooking more meals at home.

### *Federally-Recognized Tribes Extension Program*

The Backyard Ramp Patch Project restores native ramp stocks by handing out new ramp bulbs and developing new gathering rules for harvesting in the Great Smoky Mountains National Park. In 2018, over 15,000 ramp bulbs were given out. Working with National Park Service, project members of the Eastern Band of Cherokee Indians in North Carolina developed a permit process, proper plant identification, proper harvesting, and tracking quantities harvested process. Additionally, households also received 850 harvest garden kits, home gardening techniques, and training for farmers in food safety and record keeping.

### *Extension 1890 Institutions*

West Virginia State University (WVSU) Extension Service's Community and Economic Development programs support community development and revitalization, regional and local economic development, micro-enterprise and small business development, disaster preparedness, and tourism. In West Virginia, one-in-three entrepreneurs make their living in the creative sector and struggle to find affordable office space, internet service, equipment, and training. WVSU's Economic Development Center, which supports WVSU's Extension, serves over 3,000 clients annually with meeting and office space, a digital conferencing center, and voice and video production studios. The facility provides space to 25 local nonprofit and community organizations and is home to 28 creative media businesses. Economic Development Center clients have launched more than 30 new businesses, which helps West Virginia's communities become viable, energetic, and economically sustainable.

### *Extension Services at 1994 Institutions*

The Navajo Technical University (NTU) Extension Capacity Project, in New Mexico, sees agriculture as a significant means for creating rural prosperity, exposing youth to STEM, fitness and nutrition programs, and advancing Navajo culture. The wide-ranging projects exposed youth and adults to animal husbandry through camps and workshops provided by USDA staff, NTU veterinary technical students, and other organizations on sheep, cattle, and poultry. Over 75 men and women attended the annual sheep conference at NTU and over 30 cattle producers earned certification in beef quality assurance at workshops in New Mexico and Arizona. A horticulture program served over 500 farmers, gardeners, youth, and campus students through 35 workshops. The Horticulture Extension manager is developing a four-year degree program in agribusiness with concentrations in horticulture and a two-year degree program in soil health.

*Food Safety Outreach Program (FSOP)*

The purpose of the FSOP projects is to provide food safety education and training for small and mid-sized producers and processors affected by the Food Safety Modernization Act. Vermont's Community Accreditation for Produce Safety (CAPS) is a voluntary, on-line program that has helped over 130 vegetable farms grow cleaner, safer product more efficiently. CAPS guides its participants to write practical produce safety plans and then document their implementation. It provides certificates to those farms that adopt all of the required practices—identified by Vermont growers as necessary and useful. These include testing the water used to wash crops, training employees on sanitation, and developing standard procedures for cleaning harvest and storage equipment.

*Rural Health and Safety Education*

The Ohio State University (OSU) launched PROSPER – Promoting School-community-university Partnerships to Enhance Resilience – to combat the opioid and substance misuse that plagues the state in three counties. Originally developed by Iowa State University, the PROSPER delivery system is an evidence-based model that has been successfully used in eight states to prevent risky behaviors among youth. With NIFA funding, OSU Extension established Community Teams in each county to serve as local advisory bodies and program advocates, train 19 facilitators to help deliver the curricula to students and families, develop Ohio-specific curricula, and provide logistical support to Educators from Extension, OSU College of Pharmacy, and OSU Mental Health First Aid trainers.

*Regional Rural Development Centers*

Mississippi State University hosts the Southern Regional Rural Development Center (SRDC). The SRDC, one of four regional centers, help spur economic, community, and workforce development. In the July 2016-June 2017 reporting period, the SRDC's Extension Community Development Programs reported an impact of 28,554 jobs created or saved across 12 universities. In addition, 2,601 new business plans were created, retained, or expanded, and 7,260 participants reported new leadership roles.

*Food and Agriculture Defense Initiative*

National Animal Health Laboratory Network (NAHLN)

The Athens Veterinary Diagnostic Laboratory (AVDL), at the University of Georgia, serves as a Level 1 NAHLN member laboratory and contributes to NAHLN's goal of rapidly and efficiently addressing emergency biological and chemical threats to animal agriculture and the security of the food supply. In 2019, AVDL staff successfully undertook USDA-administered proficiency tests related to seven diseases that threaten livestock.

National Plant Diagnostic Network (NPDN)

In 2018-2019, NPDN tested nearly 650,000 samples, including samples for highly regulated pathogens. The network had over 2,700 first-in-state reports of pests and worked closely with the Animal and Plant Health Inspection Service to provide surge capacity for regulated pests. Additionally, the NPDN was involved in 2,575 publications and presentations that reached more than 1,224,041 stakeholders. NPDN played a key role in improving producer understanding and accessibility to diagnostic

information on routine pests and emerging threats through different methods, and detection of new pests. In Alabama, Cotton leafroll dwarf virus (CLRDV) was diagnosed for the first time in the U.S. and the diagnostic lab at Auburn University developed a diagnostic protocol for the detection of CLRDV and distributed it to neighboring states.

Extension Disaster Education Network (EDEN)

In 2017 Florida's Cooperative Extension was involved with the response and recovery in two hurricanes that registered Category 4 or higher. University of Florida assumed a leading role in engaging communities in discussion and programming around post disaster mental health. After the earthquake with a magnitude 7.0 earthquake struck north of Anchorage, Alaska, in November 2018, the University of Alaska Fairbanks' Cooperative Extension responded to the disaster with focus on three major issues: water quality, home damage assessment and radon. EDEN expertise and educational resources were utilized to address these issues. During the spring floods of 2019, Missouri, Nebraska, and Mississippi EDEN delegates assisted their states in establishing and operating multi-agency resource centers (MARC) to coordinate organizations in providing resources and assistance to individuals.