

2022 USDA EXPLANATORY NOTES – NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

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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 programs propel cutting-edge discoveries from research laboratories to farms, classrooms, communities, and back again. Through three main federal-funding mechanisms, NIFA supports programs that address key national challenges. NIFA's mission is 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 (USDA) 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.](#));
- Evans Allen Act, as amended (7 U.S.C 3221 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 USDA participates with State and other cooperators to encourage and assist the State institutions in agricultural research and education through the State Agricultural Experiment Stations (SAES) of the 50 States and 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); 1994 Land-Grant Institutions (7 U.S.C. 301 note, as amended); by Colleges of Veterinary Medicine; and other eligible institutions. 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 people in rural communities in individual States naturally look to their SAES, universities, and colleges for solutions to the State and local problems and request services and solutions to address these problems.

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. 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).

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

Hatch Act

Funds under the Hatch Act of 1887 as amended ([7 U.S.C. 361a-361i](#)) 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 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 Act ([16 U.S.C. 582a et seq.](#)) as amended 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 (Pub. L. 115-334), 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 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 underprivileged people in rural areas 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.

Tribal Colleges Education Equity Grants Program

The 1994 Act ([7 U.S.C. 301 note](#)) 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 if 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.

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.

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, authorized by [7 U.S.C. 3222a](#). 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.

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 agricultural sciences, natural resources, forestry, veterinary medicine, home economics allied, and disciplines closely to the food and agriculture production and delivery systems 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). Funds may support: 1) curricula design, degree programs, materials development, and library resources; 2) faculty preparation and enhancement for teaching; 3) instruction delivery systems; 4) scientific instrumentation for teaching; 5) student experiential learning; and 6) student recruitment and retention.

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 re-designated 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.

1994 Institutions Research Grants

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 eligible to receive funds under McIntire-Stennis Cooperative Forestry Act; ([7 U.S.C. 3103](#)).

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.

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 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.

Agriculture and Food Research Initiative

Subsection (b) of the 1965 Act ([7 U.S.C. 3157\(b\)](#)) 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, and any group consisting of two or

more of these 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 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 ([7 U.S.C. 5921](#)) as amended 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 fundamental risk assessment research, which is defined as the science-based evaluation and interpretation of information in which a given hazard, if any, is identified, and the consequences associated with the hazard are explored.

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.

Animal Health and Disease Research

Section 1433 of NARETPA, as amended by Pub. L. 113-79 and 115-334 ([7 U.S.C. 3195](#)), provides for support of livestock and poultry disease research in accredited schools or colleges of veterinary medicine or SAES that conduct animal health and disease research. These funds provide support for new research initiatives and enhance research capacity leading to improved animal health, reduced use of antibacterial drugs and improved safety of foods of animal origin. 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 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.

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.

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 ([7 U.S.C. 3152\(b\)\(1\)](#)) 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 ([7 U.S.C. 3152\(b\)\(5\)](#)) 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 ([7 U.S.C. 3152\(b\)\(6\)](#)) 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.

Aquaculture Centers

Pursuant to section 1475(d) of NARETPA ([7 U.S.C. 3322\(d\)](#)) 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.

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.

Farm Business Management and Benchmarking Program

Section 1672D of 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.

Alfalfa Seed and Alfalfa Forage Systems Program

Pursuant to Section 1672 of the 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.

Minor Crop Pest Management (IR-4)

Pursuant to Section 2(c) of the 1965 Act ([7 U.S.C. 3157\(e\)](#)), 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.

Special Grants

Section 2(c) of the 1965 Act ([7 U.S.C. 3157\(c\)](#)), as amended; and subject to provisions of NARETPA; Pub. L. 97-98; Critical Agricultural Materials Act, (Pub. L. 98-284); Pub. L. 99-198; FACT Act; FAIR Act; and AREERA authorizes Special Research Grants for periods not to exceed three years to SAES, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals. Grants are made available for the purpose of conducting research to facilitate or expand promising breakthroughs in areas of the food and agricultural sciences. AREERA expanded the purposes under this authority to include extension or education activities. Special Grants are awarded on a non-competitive or competitive basis involving scientific peer and merit review processes. Included in Special Grants are:

Aquaculture Research

Pursuant to Section 2(c) of the 1965 Act ([7 U.S.C. 3157\(c\)](#)), as amended supports aquaculture research to address issues related to genetics, disease, systems, and economics.

Global Change UV-B Monitoring

Pursuant to Section 2(c) of the 1965 Act ([7 U.S.C. 3157\(c\)](#)), as amended, supports a climatological network which includes 38 climatological sites: 35 in the U.S., two in Canada, and one in New Zealand. The program supports action items for informing decisions and modeling efforts as outlined in the U.S. Global Change Research Program strategic plan.

Potato Research

Pursuant to Section 2(c) of the 1965 Act ([7 U.S.C. 3157\(c\)](#)), 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.

Federal Administration (direct appropriation)

Authority for direct appropriations is provided in the annual Agriculture 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.

Native American Institutions Endowment Fund

The program, authorized by the 1994 Act ([7 U.S.C. 301 note](#)), 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 adjusting 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.

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, or 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 769 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$10 million for NIFA grants to the 1890 Institutions to support the Centers of Excellence.

New Beginning 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 757 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$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 758 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$1 million for the program.

Agriculture Business Innovation Centers-Historically Black Colleges and Universities

The Agriculture Business Innovation Center was envisioned to serve as a technical assistance hub to enhance agriculture-based business development opportunities. Section 766 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$2 million for NIFA through a competitive grant to support the establishment of an Agriculture Business Innovation Center at a historically black college or university to serve as a technical assistance hub to enhance agriculture-based business development opportunities.

Blue Ribbon Panel

A blue-ribbon panel will be convened for the purpose of evaluating the overall structure of research and education through the public and land-grant universities, including 1890 Institutions, to define a new architecture that can better integrate, coordinate, and assess economic impact of the collective work of these institutions. Section 798 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$300,000 for NIFA to convene the Blue Ribbon Panel.

Farm of the Future

The Farm of the Future testbed and demonstration site is envisioned to be established through a competitive grant to an institution in the land grant university system. Section 799 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$4 million to NIFA to support the Farm of the Future.

Open Data Standards

Solutions are desired to preserve and share big data generated by technological advancements in the agriculture industry and for the preservation and curation of data in collaboration with land grant universities. A public-private cooperative framework will be developed based on open data standards for neutral data repository. Section 779 of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$500,000 to NIFA to support Open Data Standards.

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 ([7 U.S.C. 341 et seq.](#)). 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 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 based on 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.

Extension Services at 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 (Pub. L. 115-334) 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 any 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.

Extension Services at the 1994 Institutions

The 1994 Act ([7 U.S.C. 301 note](#)) 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 as authorized 7 U.S.C 343(b)(3). 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.

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\(i\)](#)). 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.

Food Animal Residue Avoidance Database Program (FARAD)

Section 7642 of AREERA ([7 U.S.C. 7642](#)) 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 ([7 U.S.C. 5925\(d\)\(7\)](#)), 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 ([7 U.S.C. 7625](#)) authorizes this 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 Agriculture Service Learning Program (FASLP)

Section 413 of AREERA ([7 U.S.C. 7633](#)) 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 7412 of the Agricultural Improvement Act of 2018 amended [7 U.S.C. 5936](#), which 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. Section 766 (Division M) of the Consolidated Appropriation Act, 2021 (P.L. 116-260) provided \$28 million for additional coronavirus response and relief to State Departments of Agriculture, to include District of Columbia, the Commonwealth of Puerto Rico and any other territory or possession of the United States.

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 amended 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 (Pub. L. 115-334) 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](#)) as amended. 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.

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.

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 includes early childhood, school age youth, teens, and parent/family outcomes with emphasis on science and reading literacy and building youth and family programs and community capacity. Section 7609 of the 2018 Farm Bill provided 1994 Institutions as eligible to receive funds from this program by amending [7 U.S.C. 343\(d\)](#).

Federally Recognized Tribes Extension Program (formerly Extension Indian Reservations)

Section 1677 of the FACT Act, [7 U.S.C. 5930](#) as amended, authorizes 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.

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 (AIRC)

Funds are appropriated under the administration line to support the AIRC program administered under [7 U.S.C. 3152\(j\)](#). AIRC advances agricultural literacy through a grassroots network of State coordinators, schoolteachers, 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.

Enhancing Agricultural Opportunities for Military Veterans Competitive Grants Program

Section 748 of the Consolidated Appropriations Act, 2020 ([Pub. L. 116-94](#)) provides funds through September 30, 2021 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 (Pub. L. 115-334) amended Section 2501 of the Food, Agriculture, Conservation, and Trade Act of 1990 ([7 U.S.C. 2279](#)) and made 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, provided \$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. Section 754 (Division M) of the Consolidated Appropriation Act, 2021 (P.L. 116-260) provided \$37.5 million for additional coronavirus response and relief.

Integrated Activities

The following programs are included under the integrated activities account:

Section 406

The following programs are provided pursuant to the authority found in section 406 ([7 U.S.C. 7626](#)). 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.

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.

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 of 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.

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.

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

Section 4205 of the 2018 Farm Bill (Pub. L. 115-334), which amended 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. Section 755 (Division M) of the Consolidated Appropriation Act, 2021 (P.L. 116-260) provided \$75 million for additional coronavirus response and relief.

Organic Agriculture Research and Extension Initiative

Section 7210 of the 2018 Farm Bill (Pub. L. 115-334) amended section 1672B of the FACT Act ([7 U.S.C. 5925b](#)) 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

Section 7305 of the 2018 Farm Bill (Pub L. 115-334) reauthorized and amended 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.

Emergency Citrus Disease Research and Extension Program

Section 12605 of the 2018 Farm Bill (Pub. L. 115-334) also established 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. The ECDRE program also 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](#)).

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

Section 7212 of the 2018 Farm Bill (Pub. L. 115-334) amended section 1672 of the FACT Act (Pub. L. 101-624) to add [7 U.S.C. 5925g](#), establishing 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, authorizes 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.

NIFA program coordination and planning are carried out by staff located in the Washington, DC and Kansas City, MO. As of September 30, 2020, there were 231 permanent full-time employees, including 19 in Washington, DC and 212 in the field. There were 25 other employees.

OIG AND GAO REPORTS

THE FOLLOWING LIST ARE THE OIG AND GAO REPORTS IN-PROCESS OR COMPLETED WHERE NIFA IS INVOLVED.

Table NIFA-1. Completed OIG Reports

ID	Date	Title
50701-0002-21	3/30/2020	USDA's Controls to Prevent the Unauthorized Access to the Transfer of Research Technologies

Table NIFA-2. In-Progress OIG Reports

ID	Title
84801-0001-22	USDA Research Integrity and Capacity Inspection (OCS Lead although review will involve NIFA Programs)
13601-0001-22	NIFA Formula Grant Program Controls Over Fund Allocation to States (Report Complete – Implementation Timeline for Recommendations In-Progress)

Table NIFA-3. Completed GAO Reports

ID	Date	Title	Result
20-341	3/30/2020	Antibiotic Resistance: Additional Federal Actions Needed to Better Determine Magnitude and Reduce Impact	No significant involvement for NIFA.
20-416	7/9/2020	Military and Veteran Support: Performance Goals Could Strengthen Programs that Help Servicemembers Obtain Civilian Employment	No significant involvement for NIFA.
20-128SP	11/12/2019	Irrigated Agriculture: Technologies, Practices, and Implications for Water Scarcity	No significant involvement for NIFA.
20-382	5/7/2020	Poverty Reduction: HHS Can Improve Information to Assist States and Localities in Adopting Approaches That Serve Whole Families	No significant involvement for NIFA (FNS is primary).

Table NIFA-4. In-Progress GAO Reports

ID	Title
103570	Fed Programs to Reduce the Costs and Risks of Diet-related Chronic Disease (FSN is Primary).
104353	SBIR/STTR Fraud, Waste, Abuse
104352	Small Business Innovation Research (SBIR) Venture Capital

AVAILABLE FUNDS AND FTEs**Table NIFA-2. Available Funds and FTEs (thousands of dollars, FTEs)**

Item	2019 Actual	FTE	2020 Actual	FTE	2021 Enacted	FTE	2022 Budget	FTE
Research and Education								
Activities								
Discretionary Appropriations	\$927,649		\$962,864		\$992,642		\$1,378,416	
Native American								
Endowment Interest Earned	4,595		5,069		5,199		5,199	
Mandatory Appropriations	40,000		-		-		-	
General Provisions	5,000		12,000		22,800		-	
Extension Activities								
Discretionary Appropriations	505,692		526,557		538,447		538,447	
Mandatory Appropriations	70,000		73,000		75,500		83,000	
Supplemental Appropriations	-		-		140,500		-	
General Provisions	5,000		7,500		7,500		-	
Integrated Activities								
Discretionary Appropriations	38,000		38,000		39,000		39,000	
Mandatory Appropriations	110,000		100,000		105,000		110,000	
Emergency Citrus Disease Trust Fund:								
Mandatory Appropriations	25,000		25,000		25,000		25,000	
Rescission	-		-		-		-	
Sequestration	-5,580		-11,682		-11,714		-	
Transfers In	60		60		60		-	
Transfers Out	-		-		-		-	
Total Adjusted								
Appropriation	1,725,416	314	1,738,368	193	1,939,934	269	2,179,062	294
Balance Available, SOY	577,320		675,241		662,455		-	
Recoveries, Other	14,508		22,740		-		-	
Total Available	2,317,244	314	2,436,349	193	2,602,389	269	2,179,062	294
Lapsing Balances	-219		-2,437		-		-	
Rescinded Balances	-	-	-	-	-	-	-	-
Balance Available, EOY	-675,241		-662,455		-		-	
Total Obligations	1,641,784	314	1,771,457	193	2,602,389	269	2,179,062	294
Other Funding:								
Community Foods Projects Program	4,000		5,000		5,000		5,000	
Total Appropriation, Other Funding	4,000		5,000		5,000		5,000	
Balance Available, SOY (enter with plus)	-	-	-	-	-	-	-	-
Recoveries, Other (enter with plus)	-	-	-	-	-	-	-	-
Total Available, Other Funding	4,000		5,000		5,000		5,000	
Lapsing Balances (enter with minus)	-	-	-	-	-	-	-	-
Bal. Available, EOY (enter with minus)	-	-	-	-	-	-	-	-
Total Obligations, Other funding	4,000		5,000		5,000		5,000	
Subtotal Obligations, NIFA	1,645,784	314	1,776,457	193	2,607,389	269	2,184,062	294

Other USDA:								
Economic Research Service								
GSA Buildout	-	1,250		-			-	
Agriculture Research Service								
Biotechnology Risk								
Assessment	1,436	1,527		1,527			1,527	
National Atmospheric								
Deposition Program	5	5		5			5	
Forest Service								
Biotechnology Risk								
Assessment	108	108		108			108	
National Atmospheric								
Deposition Program	203	203		203			203	
Various Agencies Sharing								
Cost of the USDA Small								
Business Innovation Research								
Program (SBIR)	3,942	4,560		5,800			5,800	
Various Agencies Sharing								
Cost of the USDA Current								
Research								
Information System								
(CRIS)								
	636	672		672			672	
Total, Other USDA	6,330	8,325		8,315			8,315	
Total, Agriculture Available	1,652,114	314	1,784,782	193	2,615,704	269	2,192,377	294
Other Non-USDA Federal								
Funds:								
Research and Education								
Activities:								
NOAA National								
Atmospheric Deposition								
Program	88	81		81			81	
Department of Interior								
Geological Survey, National								
Atmospheric Deposition								
Program	581	581		581			581	
National Park Service,								
National Trends Network								
(NPS)	350	-		-			-	
National Park Service,								
National Atmospheric								
Deposition Program	-	361		361			361	
Bureau of Land								
Management, National								
Atmospheric Deposition								
Program	39	49		49			49	
Extension Activities								
Department of Defense								
U.S. Air Force - Army								
Substance Abuse Program, Fort								
Sam, Houston	333	338		338			338	
U.S. Air Force 4-H								
Programs	-	1,156		1,156			1,156	

Clearinghouse for Military Family Readiness	5,953	6,300	6,300	6,300
Child and Youth Services – 4H	-	600	600	600
Military Family Learning Network	2,480	2,200	2,450	2,450
Defense Programs Family Support – Youth Extension Services	1,000	1,000	1,000	1,000
Military Community & Family Policy – Military REACH	770	720	779	779
Military Community & Family Policy – Teen Adventure Camps	770	770	770	770
Virtual Lab School	3,300	2,200	2,250	2,250
Defense Human Resources Activity – Yellow Ribbon	650	650	650	650
Department of Housing and Urban Development Promoting IPM in Affordable Housing	400	-	-	-
HUD, Healthy Homes	500	500	500	500
HUD, Pest Management	-	289	289	289
Total, Other Federal	17,214	17,795	18,154	18,154
Non-Federal Funds:				
Other Agreement	-	-	-	-
Total, Non-Federal	-	-	-	-
Total, NIFA	1,669,329	314	1,802,490	193
	2,633,781	269	2,210,531	294

PERMANENT POSITIONS BY GRADE AND FTE'S*Table NIFA-3. Permanent Positions by Grade and FTEs*

Item	2019 Actual			2020 Actual			2021 Enacted			2022 Budget		
	D.C.	Field	Total	D.C.	Field	Total	D.C.	Field	Total	D.C.	Field	Total
SES	4	-	4	1	1	2	1	5	6	1	6	7
SL	-	-	-	-	-	-	-	-	-	-	-	-
GS-15	60	-	60	11	30	40	11	32	43	11	53	64
GS-14	43	-	43	17	38	39	17	29	46	17	43	60
GS-13	33	-	33	10	34	35	10	49	59	10	24	34
GS-12	51	-	51	12	27	29	12	22	34	12	68	80
GS-11	15	-	15	4	30	32	4	53	57	4	57	61
GS-10	4	-	4	-	2	2	-	2	2	-	6	6
GS-9	11	-	11	3	34	34	3	55	58	3	19	22
GS-8	7	-	7	3	6	6	3	10	13	3	9	12
GS-7	19	-	19	1	4	5	1	12	13	1	21	22
GS-6	1	-	1	1	3	3	1	-	1	1	8	9
GS-5	-	-	-	1	1	2	1	6	7	1	3	4
GS-4	2	-	2	1	1	1	1	-	1	-	-	1
GS-3	1	-	1	-	-	-	-	-	-	-	-	-
GS-2	-	-	-	-	-	-	-	-	-	-	-	-
GS-1	-	-	-	-	-	-	-	-	-	-	-	-
Other Graded	-	-	-	-	-	-	-	-	-	-	-	-
Ungraded	-	-	-	-	-	-	-	-	-	-	-	-
Total Perm. Unfilled, EOY	251	-	251	65	166	231	66	275	341	66	317	382
Total Perm. FT EOY	-	-	161		181	181		71	71		30	30
FTE	251		412	65	347	412	66	346	412	65	347	412
			314			193			269			294

SHARED FUNDING PROJECTS

Table NIFA-4. Shared Funding Projects (dollars in thousands)

Item	2019 Actual	2020 Actual	2021 Enacted	2022 Budget
Working Capital Fund:				
Administrative Services:				
Material Management Service.....	37	62	52	3
Mail and Reproduction Services.....	290	328	213	186
Integrated Procurement Systems.....	34	29	28	29
Human Resources Enterprise Management Systems.....	9	9	7	7
Subtotal.....	370	428	300	225
Communications:				
Creative Media & Broadcast Center.....	22	28	21	20
Finance and Management:				
National Finance Center.....	104	97	83	83
Financial Shared Services.....	1,925	2,226	1,631	1,515
Internal Control Support Services.....	101	137	97	97
Subtotal.....	2,130	2,460	1,811	1,695
Information Technology:				
Client Experience Center.....	538	670	1,382	1,325
Department Administration Information Technology Office.....	-	-	265	76
Digital Infrastructure Services Center.....	602	1,128	619	633
Enterprise Network Services.....	190	526	410	445
Subtotal.....	1,330	2,324	2,676	2,479
Office of the Executive Secretariat.....	11	11	36	36
Total, Working Capital Fund.....	3,863	5,251	4,844	4,455
Department-Wide Shared Cost Programs:				
Agency Partnership Outreach.....	27	28	15	14
Honor Awards.....	-	-	18	-
Human Resources Self-Service Dashboard.....	2	2	-	-
Intertribal Technical Assistance Network.....	11	11	7	-
Medical Services.....	20	13	8	-
Office of Customer Experience.....	-	-	20	19
Personnel and Document Security Program.....	6	6	4	-
Physical Security.....	-	21	9	-
Pre-Authorizing Funding.....	9	11	-	-
Security Detail.....	15	16	9	9
Security Operations Program.....	37	21	13	-
TARGET Center.....	4	4	2	-
TARGET Center NCR Interpreting Services.....	-	-	117	-
USDA Enterprise Data Analytics Services.....	-	19	10	-
Total, Department-Wide Reimbursable Programs.....	131	152	232	28
E-Gov:				
Budget Formulation and Execution Line of Business.....	3	4	4	4
Enterprise Human Resources Integration.....	8	-	-	-
E-Rulemaking.....	14	24	5	6
Financial Management Line of Business.....	1	1	1	1
Geospatial Line of Business.....	13	13	13	13
Benefits.gov.....	-	48	47	46
Grants.gov.....	344	347	353	363
Human Resources Line of Business.....	1	1	1	1
Integrated Acquisition Environment.....	59	26	-	-
Total, E-Gov.....	443	464	424	434
Agency Total.....	4,437	5,867	5,500	4,917

*ACCOUNT 1: SALARIES AND EXPENSES***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, \$1,955,863,000 of which not less than \$91,000,000 is for climate change research, in addition to other funds made available, including not less than \$5,000,000 for climate hubs: Provided, That \$803,424,000, 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, scholarships at 1890 institutions, 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 shall receive no less than \$1,000,000: Provided further, That \$3,194,000 to remain available until September 30, 2023 shall be for providing grants food and agricultural sciences for Alaska Native- and Native Hawaiian-Serving Institutions : Provided further, That \$2,000,000 to remain available until September 30, 2023 shall be for providing grants for food and agricultural sciences for Insular Areas: : 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 institutions eligible to receive funds under 7 U.S.C. 3221 for cooperative extension shall each 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, 2023: 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): 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 for merit-reviewed rapid response science needs to address critical national and emergency issues.

[Research and education activities]

[For payments to agricultural experiment stations, for cooperative forestry and other research, for facilities, and for other expenses, \$992,642,000, 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.

[Extension activities]

[For payments to States, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, Micronesia, the Northern Marianas, and American Samoa, \$538,447,000, 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.]

[Integrated activities]

[For the integrated research, education, and extension grants programs, including necessary administrative expenses, \$39,000,000, 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, 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).]

Change Description

The 2022 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.

LEAD-OFF TABULAR STATEMENT*Table NIFA-5. Lead-Off Tabular Statement (In dollars)*

Item	Amount
2021 Enacted	\$1,570,089,000
Change in Appropriation	385,774,000
Budget Estimate, 2022	<u>1,955,863,000</u>
Budget Estimate, Current Law 2022	\$1,955,863,000
Change Due to Proposed Legislation	0
Net 2022 Request	<u>1,955,863,000</u>
Research and Education Activities Account	992,642,000
2021 Appropriations	<u>-992,642,000</u>
Change in Appropriation	<u>0</u>
2022 Request	
Extension Activities Account	
2021 Appropriations	538,447,000
Change in Appropriation	<u>-538,447,000</u>
2022 Request	<u>0</u>
Integrated Activities Account	
2021 Appropriations	39,000,000
Change in Appropriation	<u>-39,000,000</u>
2022 Request	<u>0</u>

PROJECT STATEMENT-APPROPRIATIONS*Table NIFA-6. Project Statement (thousands of dollars, FTE)*

Item	2019 Actual	FTE	2020 Actual	FTE	2021 Enacted	FTE	Inc. or Dec.	Chg Key	FTE	2022 Budget	FTE
Discretionary Appropriations:											
Research and Education											
Activities:											
Hatch Act.....	\$259,000		\$259,000		\$259,000		+70,380	(1)		\$329,380	
McIntire-Stennis Cooperative Forestry Research Program.....	36,000		36,000		36,000		+9,783	(2)		45,783	
Evans-Allen (Research at 1890 Institutions).....	58,000		67,000		73,000		+19,837	(3)		92,837	
Tribal Colleges Education Equity Grants Program/Payments to 1994 Institutions.....	3,439		4,000		4,500					4,500	
Education Grants for 1890 Institution Capacity Building Grants.....	19,336		23,009		26,000					26,000	
Scholarships at 1890 Institutions Education Grants for Hispanic Serving Institutions Grants Program.....	9,219		11,200		12,500					12,500	
Alaska Native-Serving & Native Hawaiian-Serving Institutions.....	3,194		3,194		3,194					3,194	
Research Grants for 1994 Institutions Research Program.....	3,801		3,801		4,000					4,000	
Capacity Building Non-Land Grant Colleges of Agriculture.....	5,000		5,000		5,000					5,000	
Grants for Insular Programs (combined program)	2,000		2,000		2,000					2,000	
Competitive Program-Native Alaskans, Native Hawaiians & Insular Areas.....	-		-		-					-	
Agriculture and Food Research Initiative.....	415,000		425,000		435,000		+265,000	(4)		700,000	
Veterinary Medicine Loan Repayment (Med Svcs Act Prog)	8,000		8,000		8,500					8,500	
Veterinary Services Grant Program.....	3,000		3,000		3,000					3,000	
Animal Health and Disease Research, Sec 1433.....	4,000		4,000		4,000					4,000	
Supplemental and Alternative Crops, Section 1437D.....	1,000		1,000		1,000		-3370	(5)		663	
Multicultural Scholars, Graduate Fellowship & Institution Challenge Grants.....	9,000		9,000		9,500					9,500	
Secondary/Post Secondary.....	900		900		900					900	
Aquaculture centers, Section 1475.....	5,000		5,000		5,000					5,000	
Sustainable Agriculture Research and Education.....	37,000		37,000		40,000		+20,000	(6)		60,000	
Farm Business Management and Benchmarking.....	2,000		2,000		2,000					2,000	

Sun Grant Program.....	3,000	3,000	3,000			3,000
Research Equipment Grants.....	-	5,000	5,000			5,000
Alfalfa Seed and Alfalfa Forage Systems.....	3,000	3,000	3,000	-3,000	(7)	-
Minor Crop Pest Management (IR-4)	11,913	11,913	11,913	+8,087	(8)	20,000
Special Research Grants:						
Aquaculture Research.....	2,000	2,000	2,000	-	2,000	(9)
Global Change.....	1,405	1,405	1,405			1,405
Potato Breeding Research (Competitive)	2,750	2,750	2,750	-	2,750	(10)
Subtotal, Special Grants	6,155	6,155	6,155			1,405
Federal Administration (Direct Appropriations)						
Grants Management System.....	7,830	7,830	7,924			7,924
General Administration/Other.....	11,862	11,862	11,556	+774	(11)	12,330
Subtotal, Federal Administration	19,692	19,692	19,480			20,254
Total, Research and Education.....	927,649	962,864	992,642			1,378,416
Extension Activities:						
Smith-Lever 3 (b&c).....	315,000	315,000	315,000	-		315,000
Extension Services at 1890 Institutions.....	48,620	57,000	62,000	-		62,000
Extension Services at 1994 Institutions.....	6,446	8,000	8,500	-		8,500
1890s Facilities.....	19,730	20,500	21,500	-		21,500
Renewable Resources Extension.....	4,060	4,060	4,060	-		4,060
Rural Health and Safety.....	3,000	4,000	4,000	-		4,000
Food Animal Residue Avoid. Database.....	2,500	2,500	2,500	-500	(12)	2,000
Women and Minorities in STEM fields.....	400	400	400	+600	(13)	1,000
Food Safety Outreach.....	8,000	8,000	10,000	-		10,000
Food and Ag Service Learning.....	1,000	1,000	2,000	-		2,000
Farmer Stress Assistance Network.....	2,000	10,000	10,000	-		10,000
Smith-Lever 3 (d) Programs:						
Expanded Food and Nutrition Program (EFNEP)	69,000	70,000	70,000	-		70,000
Farm Safety and Youth Farm Safety Education.....	4,610	4,610	5,000	-		5,000
New Technologies for Ag Extension.....	1,550	1,550	3,550	-548	(14)	3,002
Youth and Families at Risk.....	8,395	8,395	8,395	-		8,395
Federally Recognized Tribes Extension.....	3,039	3,200	3,200	-		3,200
Federal Administration (Direct Appropriations):						
Ag in the Classroom.....	552	552	552	+448	(15)	1,000

Other General Administration - Extension.....	7,790	7,790	7,790	7,790				
Total, Extension.....	505,692	526,557	-538,447	538,447				
Integrated Activities:								
Methyl Bromide Transition Program.....	2,000	2,000	2,000	2,000				
Organic Transition Program.....	6,000	6,000	7,000	7,000				
Regional Rural Development Centers.....	2,000	2,000	2,000	2,000				
Food & Agriculture Defense Initiative (FADI) Homeland Sec.....	8,000	8,000	8,000	8,000				
Crop Protection/Pest Management (CP/PM)	20,000	20,000	20,000	20,000				
Total, Integrated.....	38,000	38,000	39,000	39,000				
Subtotal Direct Appropriations	1,471,341	314	1,527,421	193	1,570,089	269	+385,774	294
Mandatory Appropriations								
Extension Risk Management Education Program (ERME)	9,380	9,410	9,430	10,000				
G. Schumacher Nutrition Incentive Program (GusNIP)	45,000	45,168	45,264	53,000				
Beginning Farmers & Ranchers Development Program (BFRDP)	15,000	14,115	16,503	20,000				
Organic Agriculture Research and Extension Initiative (OREI)	20,000	18,820	23,575	30,000				
Specialty Crop Research Initiative (SCR)	75,040	75,280	75,440	80,000				
Emergency Citrus Disease Research and Extension Program (ECDRE) Trust Fund.....	25,000	23,525	23,575	25,000				
Urban, Indoor & Other Emerging Ag Production (Urban Ag)	10,000	-	-	-				
Scholarships for Students at 1890 Institutions.....	40,000	-	-	-				
Total, Mandatory Appropriations	239,420	186,318	193,787	+24,213	218,000			
Supplemental Appropriations:								
COVID-Farming Opportunities & Outreach, Sec 754.....			37,500	-37,500				
COVID-GusNIP, Sec 756.....			75,000	-75,000				
COVID-Farm Stress, Sec 766.....			28,000	-28,000				
Subtotal.....			140,500	-140,500				
Total Adjusted Approp.....	1,710,761	314	1,713,739	193	1,904,376	269		2,173,863 294
Add back:								
Rescission, Transfers In and Out.... Sequestration.....	5,580	11,682	11,714	-11,714				
Total Appropriation.....	1,716,341	314	1,725,421	193	1,916,090	269	257,773	2,173,863 294
General Provisions								

Enhancing Ag Opportunities									
Military Veterans (Ag Vets) 742.....	5,000		5,000		5,000		-5,000		-
Beg Farmers & Ranchers Dvlpmt Program (under FOTO) 756.....									
	-		2,500		2,500		-2,500		-
New Beginnings for Tribal Students 757.....									
	-		5,000		5,000		-5,000		-
Agricultural Genome to Phenome Initiative 758.....									
	-		1,000		1,000		-1,000		-
HBCU Business Innovation Centers 766.....									
	-		-		2,000		-2,000		-
1890 Institutions, Centers of Excellence 769.....									
	5,000		6,000		10,000		-10,000		-
Open Data Standards for Neutral Data Repository 779.....									
	-		-		500		-500		-
Blue Ribbon Panel 798.....									
	-		-		300		-300		-
Farm of the Future 799.....									
	-		-		4,000		-4,000		-
Subtotal, General Provisions	10,000		19,500		30,300		-30,300		-
Endowment Funding:									
Tribal Colleges Endowment Fund (Native American Endowment Fund)									
	(11,880)		(11,880)		(11,880)				(11,880)
Interest on Tribal College Endowment Fund (Native American Endowment – Interest Earned)									
	4,595		5,069		5,199				5,199
Total, Endowment									
Transfers In*:									
Cong. Relations.....	60		60						
Total Transfers In.....	60		60						
Transfers Out*:									
Institution/Program.....	-		-		-				-
Total Transfers Out.....	-		-		-				-
Rescission.....									
Sequestration.....	-5,580		-11,862		-11,714		+11,714		-
Recoveries, Other	14,508		22,740		-				-
Bal. Available, SOY.....	577,320		675,241		662,455		-662,455		-
Total Available.....	2,317,244	314	2,436,349	193	2,602,330	269	-423,268		2,179,062 294
Lapsing Balances.....	-219		-2,437		-				-
Rescinded Balances.....	-		-		-				-
Bal. Available, EOY.....	-675,241		-662,455		-				-
Total Obligations.....	1,641,784	314	1,771,457	193	2,602,330	269	-423,268		2,179,062 294

PROJECT STATEMENT-OBLIGATIONS*Table NIFA-7. Project Statement (thousands of dollars, FTE)*

Item	2019 Actual	FTE	2020 Actual	FTE	2021 Enacted	FTE	Inc. or Dec.	Chg Key	FTE	2022 Budget	FTE
Discretionary Obligations:											
Research and Education											
Activities:											
Hatch Act.....	\$259,000		\$259,000		\$259,000		+\$70,380			\$329,380	
McIntire-Stennis Cooperative Forestry Research Program.....	36,000		36,000		36,000		+9,783			45,783	
Evans-Allen (Research at 1890 Institutions).....	58,000		67,000		73,000		+19,837			92,837	
Tribal Colleges Education Equity Grants Program/Payments to 1994 Institutions.....	3,439		4,000		4,500					4,500	
Education Grants for 1890 Institution Capacity Building Grants.....	19,779		18,329		51,725		-25,725			26,000	
Scholarships at 1890 Institutions Education Grants for Hispanic Serving Institutions Grants Program.....	-		5,000		10,000					10,000	
Alaska Native-Serving & Native Hawaiian-Serving Institutions.....	9,219		11,200		12,500					12,500	
Research Grants for 1994 Institutions Research Program.....	3,194		3,194		3,194					3,194	
Capacity Building Non-Land Grant Colleges of Agriculture.....	2,000		2,305		4,809		-809			4,000	
Grants for Insular Programs (combined program)	-		4,954		10,226		-5,226			5,000	
Competitive Program-Native Alaskans, Native Hawaiians & Insular Areas.....	2,000		2,000		2,000					2,000	
Agriculture and Food Research Initiative.....	-		-		-					-	
Veterinary Medicine Loan Repayment (Med Svcs Act Prog)	384,357		414,593		956,224		-256,224			700,000	
Veterinary Services Grant Program.....	6,529		5,945		21,054		-12,554			8,500	
Animal Health and Disease Research, Sec 1433.....	3,000		3,000		3,000					3,000	
Supplemental and Alternative Crops, Section 1437D.....	4,000		4,000		4,000					4,000	
Multicultural Scholars, Graduate Fellowship & Institution Challenge Grants.....	1,000		1,000		1,000		-337			663	
Secondary/Post Secondary.....	8,721		13,091		11,998		-2,498			9,500	
Aquaculture centers, Section 1475.....	900		900		900					900	
Sustainable Agriculture Research and Education.....	5,000		5,000		5,000					5,000	
Farm Business Management and Benchmarking.....	37,000		37,000		40,000		+20,000			60,000	
	2,000		2,000		2,000					2,000	

Sun Grant Program.....	3,000	3,000	3,000		3,000
Research Equipment Grants.....	-	5,000	5,000		5,000
Alfalfa Seed and Alfalfa Forage Systems.....	3,000	3,000	3,000	-3,000	-
Minor Crop Pest Management (IR-4)	11,913	11,913	11,913		11,913
Special Research Grants:					
Aquaculture Research.....	2,000	2,000	2,000	-2,000	-
Global Change.....	1,405	1,405	1,405		1,405
Potato Breeding Research (Competitive)	2,750	2,750	2,750	-2,750	-
Subtotal, Special Grants	6,155	6,155	6,155	-4,750	1,405
Federal Administration (Direct Appropriations)					
Grants Management System.....	7,830	7,830	7,924		7,924
General Administration/Other.....	29,234	26,953	12,094	+2369	12,330
Subtotal, Federal Administration	37,064	34,783	20,018	+2369	20,254
Total, Research and Education.....	906,270	963,362	1,561,216	-190,887	1,370,329
Extension Activities:					
Smith-Lever 3 (b&c).....	315,000	314,999	315,000		315,000
Extension Services at 1890 Institutions.....	48,620	57,000	62,000		62,000
Extension Services at 1994 Institutions.....	6,446	8,000	8,500		8,500
1890s Facilities.....	17,997	20,594	50,344	-28,844	21,500
Renewable Resources Extension.....	4,060	4,060	4,060		4,060
Rural Health and Safety.....	3,000	4,000	4,000		4,000
Food Animal Residue Avoid. Database.....	2,500	2,500	2,500	-500	2,000
Women and Minorities in STEM fields.....	400	400	400	+600	1,000
Food Safety Outreach.....	8,000	8,000	10,000		10,000
Food and Ag Service Learning.....	1,000	1,000	2,000		2,000
Farmer Stress Assistance Network.....	2,000	10,000	10,000		10,000
Smith-Lever 3 (d) Programs:					
Expanded Food and Nutrition Program (EFNEP)	69,000	70,000	70,000		70,000
Farm Safety and Youth Farm Safety Education.....	4,610	4,610	5,000		5,000
New Technologies for Ag Extension.....	1,550	1,550	3,550	-548	3,002
Youth and Families at Risk.....	8,395	8,395	8,395		8,395
Federally Recognized Tribes Extension.....	3,039	3,200	3,200		3,200
Federal Administration (Direct Appropriations):					
Ag in the Classroom.....	552	552	552	+448	1,000

Other General Administration - Extension.....	9,089		9,032		7,790		-		7,790	
Total, Extension.....	505,258	-	527,892	-	567,291	-	-28,844		538,447	-
Integrated Activities:										
Methyl Bromide Transition Program.....	2,000		2,000		2,000		-		2,000	
Organic Transition Program.....	6,000		6,000		7,000		-		7,000	
Regional Rural Development Centers.....	2,000		2,000		2,000		-		2,000	
Food & Agriculture Defense Initiative (FADI) Homeland Sec.....	8,000		8,341		8,281		-281		8,000	
Crop Protection/Pest Management (CP/PM)	20,000		20,000		20,000		-		20,000	
Total, Integrated.....	38,000		38,341		39,281		-281		39,000	
Subtotal Obligations	1,449,528	314	1,529,595	193	2,167,788	269	-220,012		1,947,776	294
Mandatory Obligations										
Extension Risk Management Education Program (ERME)	4,483		13,555		9,806		-376		9,430	
G. Schumacher Nutrition Incentive Program (GusNIP)	45,000		44,619		45,264		+4,715		49,979	
Beginning Farmers & Ranchers Development Program (BFRDP)	14,365		14,483		17,479		+1,381		18,860	
Organic Agriculture Research and Extension Initiative (OREI)	20,000		18,491		23,905		+4,385		28,290	
Specialty Crop Research Initiative (SCRI)	75,040		72,118		82,287		-6,847		75,440	
Emergency Citrus Disease Research and Extension Program (ECDRE) Trust Fund.....	20,361		45,497		28,078		-4,503		23,575	
Urban, Indoor & Other Emerging Ag Production (Urban Ag)	-		-		10,000		-10,000		-	
Biomass Research and Development Initiative Scholarships for Students at 1890 Institutions.....	1,718		-		3,147		-3,147		-	
	-		9,500		10,500		-10,500		-	
Total, Mandatory	180,967		218,263		230,466		-24,982		205,574	
Supplemental Appropriations:										
COVID-Farming Opportunities & Outreach, Sec 754.....	-		-		37,500		-37,500		-	
COVID-GusNIP, Sec 756.....	-		-		75,000		-75,000		-	
COVID-Farm Stress, Sec 766.....	-		-		28,000		-28,000		-	
Subtotal.....	-		-		140,500		-140,500		-	
Total Adjusted Obligations.....	1,630,495	314	1,747,858	193	2,538,754	269	-385,404		2,153,350	
Add back:										
Rescission, Transfers In and Out.... Sequestration.....	60		60		-		-		-	
	-		-		-		-		-	
Total Obligations.....	1,630,555	314	1,747,918	193	2,538,754	269	-385,404		2,153,350	294

General Provisions									
Enhancing Ag Opportunities									
Military Veterans (Ag Vets)									
742.....	4,777		5,000		5,200		-5,200		-
Beg Farmers & Ranchers									
Dvlpmt Program (under FOTO)									
756.....	-		2,500		2,500		-2,500		-
New Beginnings for Tribal									
Students 757.....									
	-		5,000		5,000		-5,000		-
Agricultural Genome to									
Phenome Initiative 758.....									
	-		1,000		1,000		-1,000		-
HBCU Business Innovation									
Centers 766.....									
	-		-		2,000		-2,000		-
1890 Institutions, Centers of									
Excellence 769.....									
	-		-		16,000		-16,000		-
Open Data Standards for Neutral									
Data Repository 779.....									
	-		-		500		-500		-
Blue Ribbon Panel 798.....									
	-		-		300		-300		-
Farm of the Future 799.....									
	-		-		4,000		-4,000		-
Subtotal, General Provisions	4,777		13,500		36,500		-36,500		-
Endowment Funding:									
Tribal Colleges Endowment									
Fund (Native American									
Endowment Fund)									
	-								
Interest on Tribal College									
Endowment Fund (Native									
American Endowment – Interest									
Earned)									
	6,949		4,876		6,911		-1,712		5,199
Total, Endowment	6,949		4,876		6,911				5,199
Transfers In*:									
Cong. Relations.....									
	-								
Total Transfers In.....									
	-								
Total Adjusted Obligations	1,642,281		1,766,294		2,582,165				2,158,549
Transfers Out*:									
Institution/Program.....									
	-60		-60		-		-		-
Total Transfers Out.....									
	-60		-60		-		-		-
Rescission.....	-		-		-		-		-
Sequestration.....	5,580		11,682		11,714		-11,714		-
Recoveries, Other	-14,508		-22,740		-		-		-
Bal. Available, SOY.....	-577,320		-675,241		-		-20,000		-20,000
Total Available.....	1,055,973	314	1,079,935	193	2,593,879	269	-455,330		2,138,549
Lapsing Balances.....	219		2,437		-		-		-
Rescinded Balances.....	-		-		-		-		-
Bal. Available, EOY.....	675,241		662,455		20,000		-20,000		-
Total Available.....	1,731,433	314	1,744,827	193	2,613,879	269	-475,330		2,138,549
									294

JUSTIFICATIONS OF INCREASES/DECREASES

The numbers and letters of the following listing relates to values in the Change (Chg) Key column of the Project Statement:

National Institute of Food and Agriculture**(1) An increase of \$70,380,000 for Hatch Act (\$259,000,000 available in 2021).**

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. In many cases, these funds provide seed money that enables researchers to become competitive for other sources of funding. Funding addresses local, regional, and national challenges in agriculture. This program serves LGUs which in turn serve the producers and consumers in their states. Increased funding will allow enhanced support of data-driven long-term research on local and regional agricultural systems that are carbon-neutral while maintaining profitability and productivity.

(2) An increase of \$9,783,000 McIntire-Stennis Research Program (\$36,000,000 available in 2021).

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 Program funds will be used to support research in the following topic areas: understanding the impacts of new stressors and developing management solutions; adaptation to climate change environmental factors and utilization of forest ecosystems to mitigate climate change; 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 increased funding will allow enhanced support of research on resilient and healthy forest systems.

(3) An increase of \$19,837,000 for Evans-Allen Capacity Grants (\$73,000,000 available in 2021).

Evans-Allen capacity funds are authorized under section 1445 of the National Agriculture Research, Extension and Teaching Policy Act of 1977 (NARETPA), to support agricultural research activities at the 1890 LGUs, dissemination of the results, administrative planning and direction, and purchase and rental of land and the construction, acquisition, alteration, or repair of buildings necessary for conducting agricultural research. The funds distributed to 19 Historically Black Colleges and Universities are leveraged with matching funding from non-federal sources. 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. The Evans-Allen program underpins and supports NIFA's competitive programs. 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 many of the administration's budget priorities, including ensuring the benefits accrue to marginalized and overburdened communities. Increased funding will allow addressing various issues in limited-resourced communities such as small farmer challenges, food security and nutrition, climate change, and workforce development.

(4) An increase of \$265,000,000 for Agriculture and Food Research Initiative (AFRI) (\$435,000,000 available in 2021).

Transformative innovations in U.S. agriculture are needed to enhance economic growth and agricultural education especially in socially disadvantaged and under-served communities, address climate change, and promote innovations in nutrition security. Therefore, NIFA proposes to increase its investment to \$700 million in AFRI, America's flagship competitive grants program for food and agricultural sciences, including five million for climate hubs. Through this investment, NIFA will contribute to a whole-of-government approach to climate change by supporting research, extension and education projects that advance the achievement of economy-wide, net-zero emissions, by 2050. These projects will lay the foundation for economic growth in rural America. Increase in AFRI funding is critical for supporting systems-level, as well as foundational research for 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 stimulate the agricultural enterprise. Past AFRI investments have directly benefited agricultural producers and consumers by providing improved regionally-adapted cultivars, creating climate-smart decision tools, and developing high-value uses of agricultural products.

NIFA proposes to include broad emphasis throughout the AFRI program on climate-smart agriculture and application of clean energy. Focused investments in these topics will be made in the 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 foster innovation in U.S. food and agricultural science, renew economic prosperity in America's under-served communities, promote nutritional security, and enhance the Nation's global competitiveness in food and agricultural production. Collectively, these investments in AFRI address the President's priorities to combat climate change, lay the foundation for economic growth and creation of good-paying jobs, and ensure that benefits accrue to marginalized and underserved communities.

In support of the Administration's climate mitigation, adaptation and resilience efforts, NIFA proposes to invest \$175 million of appropriated funds in the Sustainable Agricultural Systems program to support large integrated projects that develop and apply technological solutions to major challenges in agricultural, food and forestry systems. This will include an emphasis on development of climate-smart and carbon-neutral agriculture through transdisciplinary systems-level approaches to sequester carbon and utilize clean energy to achieve net-zero emissions of greenhouse gases by 2050. NIFA will attain this through advancing 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, clean energy and other new biobased products from forests and agriculture through circular economy, new markets and, consequently, new high-skill jobs. STEM education will be emphasized in the integrated research, extension and education grants supported by the Sustainable Agricultural Systems program.

The agency proposes to invest \$455 million in the Foundational and Applied Science programs, with work on climate change mitigation, adaptation or resilience included among all discipline-focused and cross-cutting program areas. NIFA will also continue support for interagency partnerships on technologies such as robotics, unmanned aerial systems and cyberphysical systems. Continued interagency investment in FY 2022 will be in synthesis of data science, artificial intelligence (AI), zoonotic and other infectious diseases, and development of climate-smart agriculture to solve challenges in the agricultural and food systems for small, medium and large producers. 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 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 in agricultural biosecurity to protect our Nation's food supply and agricultural economy. An additional component of these investments in support of rural prosperity will involve research and related activities addressing societal acceptance and economic implications of agricultural technologies, including

gene editing and big data. NIFA will continue to promote equity and inclusion through increased awarding of Food and Agricultural Science Enhancement (FASE) grants to minority-serving institutions, especially for grants that serve marginalized, disadvantaged and underserved communities, and grants that promote healthy foods and nutritional security. Continued emphasis will be made to support new investigators that represent the future leaders in agricultural research, education and extension, thereby helping to retain the best and brightest scientists and educators in agriculture. Finally, NIFA also will continue efforts to increase award size to be more commensurate with the scope of foundational work required and to offset the rapid increases in the cost of conducting research and training the future workforce.

The agency proposes to invest \$70 million in Education and Workforce Development programs to enhance the capacity of diverse educational institutions, enhance development of the U.S. agricultural and rural workforce, promote equity and inclusion, and serve disadvantaged and underserved communities. 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 high priority areas such as climate-smart agriculture and food production, bioeconomy, AI, and advanced manufacturing. NIFA will continue its increased effort on STEM education activities as well as those in informal education on gene editing and application of other advanced technologies. Increased educational focus will be provided at all levels for climate-smart carbon-neutral agriculture and for development of clean energy and other biobased products.

(5) A decrease of \$337,000 for Supplemental and Alternative Crops (\$1,000,000 available in 2021)

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. This program may be supported by other funding sources, including other NIFA programs. The broad research goals of this relatively small program may be more effectively addressed through higher priority programs in this request. This would allow for greater focus on national priorities, and efficiency in program management and implementation.

(6) An increase of \$20,000,000 support for Sustainable Agriculture Research and Education (SARE) (\$40,000,000 available in 2021).

This increase in funding will enable development of climate-smart research and delivery of climate-smart education programs to help farmers and ranchers adapt to a changing climate and mitigate effects of climate change in their food production systems. Base funding will be used to increase knowledge of sustainable agricultural practices that are profitable, environmentally sound, and beneficial for quality of life and to help farmers adopt these practices. Grants awarded by the four regional administrative councils support projects that address crop and livestock production and marketing, stewardship of soil and other natural resources, economics, and quality of life in rural communities. The program will continue to focus on the high priority solutions for farmers and ranchers across all U.S. regions through grants provided to farmers and ranchers to develop innovative sustainable practices. Increased funding will allow enhanced support of stakeholder-driven research and education projects that address climate change and other problems faced by small and socially disadvantaged producers and communities.

(8) An increase of \$8,087,000 for Minor Crop Pest Management (IR-4) (\$11,913,000 available in 2021).

The proposed funding increase will affect the number of funded pesticide data projects per year as well as additional biopesticide and organic projects. Increased funding will allow 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.

(11) An increase of \$774,000, which includes \$527,000 for pay inflation and \$247,000 for FERS:

This increase will support a 2.7% Cost of Living pay increases for civilian employees, and a 1.1% increase to cover the expenses for the mandated increase of USDA's contribution to FERS. 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.

A decrease of \$7,750,000 to eliminate certain research programs (\$7,750,000 available in 2021).

Program	2021 (\$000)	Decrease (\$000)	2022 (\$000)
Alfalfa Seed and Alfalfa Forage Systems (7)	3,000	-3,000	0
Aquaculture Research (9)	2,000	-2,000	0
Potato Research (10)	2,750	-2,750	0
Total	\$7,750	-\$7,750	0

A decrease is proposed to direct funding to higher priority activities and is consistent with the Administration's policy to redirect available resources, as appropriate, from lower-priority areas to other science and technology activities. The research supported under these programs is eligible to receive funding through other programs administered by NIFA.

(12) A decrease of \$500,000 for Food Animal Residue Avoidance Database (FARAD) (\$2,500,000 available in 2021).

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 decrease in funding would allow for greater focus on national priorities, and efficiency in program management and implementation through consolidation of program activities.

(13) An increase of \$600,000 for Women and Minorities in STEM Fields (\$400,000 available in 2021).

The goal of the Women and Minorities in Science, Technology, Engineering and Mathematics Fields Grant Program (WAMS) is to develop and implement robust collaborations to increase the representation, participation, and entrepreneurial skills and abilities of rural women and underrepresented minorities from rural areas in STEM careers, thereby contributing to economic prosperity in rural areas across the nation. Increased funding will continue to support this goal and lead to the development of a robust and diverse food and agricultural STEM workforce that is highly competent in the application of STEM knowledge and skills, with increased participation of women and minorities from rural areas across a broad spectrum of rural, local, state or national communities.

(14) A decrease of \$548,000 for Smith-Lever 3(d) New Technologies for Extension (\$3,550,000 available in 2021).

A decrease in funding is proposed pending a project design to allow support for these competitively awarded projects for Internet-based information, education, and guidance on subjects including food safety, food production, natural resources and environment, and other agricultural related topics.

(15) An increase of \$448,000 for Ag in the Classroom (\$552,000 available in 2021).

NIFA's Agriculture in the Classroom Program (AIRC) serves nearly 5 million students and 60,000 teachers annually through workshops, conferences, field trips, farm tours, and other educational activities. AIRC programs include working with state AIRC activities engaged in a variety of issues relating to agricultural literacy. Increased funding will continue to support students in gaining a greater awareness of the role of agriculture in the economy and society so they will become citizens who support wise agricultural policies.

PROPOSED LEGISLATION

Period of Availability for funding for Minority Serving Institutions and Competitive Grants for Alaska and Hawaiian Native Serving Institutions and Insular Areas

Current legislative authority to be amended:

Convert the period of availability of funding for minority serving institutions from one year to no-year. In addition, competitive grants for Alaska native-serving, native Hawaiian-serving institutions and insular areas are requested to be two-year funds rather than one year.

This will allow NIFA to redistribute any unused funds to continue to support capacity at these institutions.

These are not mandatory programs and therefore no offsets are provided.

There will be no change in funding only in period of availability.

Table NIFA-1. Change in Funding Due to Change in Period of Availability (thousands of dollars)

Item	2022	2021	2022	10 Year Total
Budget Authority	-	-	-	-
Outlays	-	-	-	-

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND FTE**Table NIFA-8. Geographic Breakdown of Obligations and FTE (thousands of dollars,**

TABLE 1 - FISCAL YEAR 2020

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

STATE	HATCH	REGIONAL	COOP	1890	ANIMAL	SPECIAL RSCH	COMP RSCH	HIGHER	TOTAL	
	FORM	RESEARCH		FORESTRY	COLLEGES &	HEALTH &		& OTHER		ED
		MULTI-STATE	TOTAL	(MS)	TUSK (EA)	DIS RSCH	GRANTS	GRANTS	FUNDS	
AK	\$ 1,125	\$ 202	\$ 1,327	\$ 615	\$ -	\$ -	\$ 494	\$ -	\$ 2,094	\$ 4,530
AL	4,078	1,202	5,280	1,162	6,353	65	-	4,968	5,948	23,776
AR	3,469	1,053	4,522	1,009	2,748	101	-	3,553	2,556	14,489
AS	1,624	31	1,655	46	-	-	-	-	171	1,826
AZ	1,589	1,069	2,658	418	-	38	-	5,506	1,047	9,667
CA	4,918	2,288	7,206	900	-	250	4,143	45,736	4,535	62,770
CO	2,249	1,572	3,821	396	-	206	1,536	7,067	1,669	14,695
CT	1,660	713	2,373	484	-	12	-	14,567	246	17,682
DC	797	154	951	-	-	-	-	1,501	-	2,452
DE	1,189	534	1,723	243	1,387	23	226	2,264	2,331	8,197
FL	3,163	955	4,118	987	2,598	60	2,709	10,012	2,388	22,872
GA	4,635	1,838	6,473	1,206	3,644	91	8,612	10,538	1,419	31,983
GU	1,664	173	1,837	112	-	-	-	-	206	2,155
HI	1,173	542	1,715	331	-	2	1,234	1,928	1,529	6,739
IA	5,672	2,278	7,950	571	-	271	924	21,390	384	31,490
ID	2,031	843	2,874	659	-	53	316	12,901	289	17,092
IL	5,697	1,477	7,174	549	-	46	244	16,694	1,595	26,302
IN	5,497	1,245	6,742	593	-	64	500	4,634	1,097	13,630
KS	3,477	1,144	4,621	352	-	143	631	10,747	686	17,180
KY	5,428	1,473	6,901	768	4,357	56	488	3,134	2,890	18,594
LA	3,117	994	4,111	1,075	2,377	52	-	3,202	1,645	12,462
MA	1,938	913	2,851	462	-	42	-	5,174	239	8,768
MD	2,329	936	3,265	440	1,849	26	2,955	27,353	4,159	40,047
ME	1,794	744	2,538	965	-	17	1,110	969	463	6,062
MI	5,518	1,336	6,854	1,053	-	97	3,443	19,453	2,140	33,040
MICRO	1,709	-	1,709	-	-	-	-	-	171	1,880
MN	5,387	1,306	6,693	856	-	169	9,000	21,104	1,343	39,165
MO	5,374	1,167	6,541	746	4,519	89	500	5,677	2,974	21,046
MP	1,616	-	1,616	-	-	-	-	-	-	1,616
MS	3,935	1,215	5,150	1,140	2,934	90	924	3,236	1,846	15,320
MT	1,970	944	2,914	724	-	37	8,615	3,724	1,264	17,278
NC	6,660	1,803	8,463	1,118	4,959	158	2,352	9,345	4,975	31,370
ND	2,265	879	3,144	177	-	31	676	2,934	930	7,892
NE	3,205	1,334	4,539	265	-	136	660	9,812	941	16,353
NH	1,444	535	1,979	506	-	8	-	783	-	3,276
NJ	1,936	1,562	3,498	374	-	14	567	-	299	4,752
NM	1,618	569	2,187	309	-	31	-	1,104	2,603	6,234
NV	1,119	755	1,874	134	-	6	-	567	189	2,770
NY	5,097	2,270	7,367	812	-	86	-	12,720	575	21,560
OH	6,656	1,416	8,072	681	3,782	97	-	7,990	1,511	22,133
OK	3,480	864	4,344	637	2,964	83	219	2,112	2,128	12,487
OR	2,661	1,337	3,998	1,184	-	73	-	5,862	617	11,734
PA	6,269	1,799	8,068	812	-	107	131	10,716	30	19,864
PR	4,163	1,070	5,233	90	-	9	-	-	1,801	7,133
PW	-	-	-	-	-	-	-	-	-	-
RI	1,076	554	1,630	155	-	23	-	1,139	-	2,947
SC	3,473	1,127	4,600	921	2,663	25	331	4,941	1,623	15,104
SD	2,442	887	3,329	221	-	66	2,788	552	1,882	8,838
TN	5,161	1,230	6,391	834	4,081	71	741	6,439	2,021	20,578
TX	7,499	1,750	9,249	943	6,415	253	756	12,098	7,616	37,330
UT	1,409	1,039	2,448	199	-	29	230	3,225	246	6,377
VA	4,384	1,136	5,520	1,031	3,428	56	612	7,832	1,507	19,986
VI	1,638	172	1,810	46	-	-	-	-	171	2,027
VT	1,495	469	1,964	528	-	15	8,365	2,303	-	13,175
WA	2,893	2,191	5,084	1,096	-	105	2,233	10,961	432	19,911
WI	5,463	1,428	6,891	878	-	100	-	9,163	2,339	19,371
WV	2,682	779	3,461	703	1,852	12	-	10,599	1,652	18,279
WY	1,358	753	2,111	287	-	23	-	760	289	3,470
SBIR	6,062	1,985	8,047	1,117	2,080	119	1,623	10,207	352	23,545
BRAG	-	-	-	-	-	-	-	3,308	-	3,308
FED ADMIN	-	-	-	-	-	-	-	-	-	19,692
DIRECT	-	-	-	-	-	-	-	-	-	39,605
FED ADMIN	-	-	-	-	-	-	-	-	-	39,605
TOTAL	189,430	62,034	251,464	34,920	64,990	3,836	70,888	414,504	86,053	985,952

TABLE 2 - FISCAL YEAR 2021

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

<u>STATE</u>	<u>HATCH ACT</u>	<u>COOP FORESTRY RESEARCH</u>	<u>1890 UNIV & TUSK UNIV (EA)</u>	<u>SPECIAL RSCH & OTHER GRANTS</u>	<u>ANIMAL HEALTH & DIS RSCH</u>	<u>FED ADMIN DIRECT APPROP</u>	<u>COMPETITIVE RESEARCH GRANTS</u>	<u>HIGHER EDUCATION GRANTS</u>	<u>TOTAL FEDERAL FUNDS</u>
FED ADMIN	7,534	1,080	2,190	3,083	160	19,480	21,750	3,894	59,171
UNOBL BAL	251,466	34,920	70,810	73,985	3,840	0	413,250	85,200	933,471
OBLIGATIONS	259,000	36,000	73,000	77,068	4,000	19,480	435,000	89,094	992,642

TABLE 3 - FISCAL YEAR 2022

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

<u>STATE</u>	<u>HATCH ACT</u>	<u>COOP FORESTRY RESEARCH</u>	<u>1890 UNIV & TUSK UNIV</u>	<u>SPECIAL RSCH & OTHER GRANTS</u>	<u>ANIMAL HEALTH & DIS RSCH</u>	<u>FED ADMIN & GRANTS MGMT SYSTEMS</u>	<u>COMPETITIVE RESEARCH GRANTS</u>	<u>HIGHER EDUCATION GRANTS</u>	<u>TOTAL FEDERAL FUNDS</u>
FED ADMIN	9,643	1,373	2,785	3888	160	20,117	35,000	3,894	76,860
UNOBL BAL	319,737	44,410	90,052	93,317	3840	0	665,000	85,200	1,301,556
OBLIGATIONS	329,380	45,783	92,837	97,205	4,000	20,117	700,000	89,094	1,378,416

2022 USDA EXPLANATORY NOTES – NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

TABLE 1 FOR FY 2020
DISTRIBUTION OF FEDERAL PAYMENTS FOR EXTENSION ACTIVITIES

STATE	SMITH-LEVER FORMULA	1890S AND TUSKEGEE	EFNEP	CHILDREN, YOUTH, AND FAMILIES AT RISK	NEW TECH AT AG EXT	FED RECOGNIZED TRIBES EXT	FARM SAFETY & YOUTH ED & YOUTH CERT	FOOD SAFETY OUTREACH PROGRAM	RENEWABLE RESOURCES EXTENSION ACT	OTHER	RURAL HEALTH SAFETY ED PROGRAM	1890 FACILITIES	INDIAN TRIBAL 1994 COLLEGES	TOTAL
AK	\$ 1,301	\$ -	\$ 266	140	-	179	169	-	\$ 97	599	-	-	170	\$ 2,921
AL	7,426	5,240	2,253	-	-	-	-	377	120	-	-	1,906	-	\$ 17,322
AR	6,230	2,299	1,443	-	-	-	-	-	98	3,497	-	905	-	\$ 14,472
AS	1,713	-	104	-	-	-	-	-	-	-	-	-	-	\$ 1,817
AZ	2,259	-	756	140	-	605	-	-	62	50	-	-	340	\$ 4,212
CA	8,408	-	3,825	280	-	-	180	1,741	96	2,090	-	-	-	\$ 16,620
CO	3,486	-	688	140	-	-	180	-	58	2,655	-	-	-	\$ 7,207
CT	2,321	-	552	-	-	77	-	-	46	525	-	-	-	\$ 3,521
DC	1,228	-	114	-	-	-	-	389	14	1,137	-	-	-	\$ 2,882
DE	1,412	1,311	418	-	-	-	-	-	60	2,693	-	701	-	\$ 6,595
FL	5,054	2,280	2,574	-	-	94	-	703	92	2,359	-	918	-	\$ 14,074
GA	8,472	3,106	2,461	-	-	-	180	-	108	1,039	-	1,004	-	\$ 16,370
GU	1,775	-	105	-	-	-	-	-	14	299	-	-	-	\$ 2,193
HI	1,456	-	353	140	-	-	-	200	46	1,598	-	-	-	\$ 3,793
IA	10,030	-	973	140	-	-	-	-	46	1,298	393	-	-	\$ 12,880
ID	3,075	-	397	140	-	261	-	-	52	-	-	-	-	\$ 3,925
IL	10,162	-	2,252	-	-	-	-	200	55	3,881	-	-	-	\$ 16,550
IN	9,640	-	1,319	140	-	-	636	200	54	500	-	-	-	\$ 12,489
KS	5,932	-	778	-	-	-	180	-	46	340	-	-	170	\$ 7,446
KY	9,774	3,853	1,850	140	-	-	-	-	85	747	-	1,086	-	\$ 17,535
LA	5,438	2,002	2,036	-	-	-	-	200	83	800	-	839	-	\$ 11,398
MA	2,850	-	1,064	-	-	-	-	-	46	1,700	-	-	-	\$ 5,660
MD	3,593	1,624	1,054	-	-	-	-	200	60	-	-	807	-	\$ 7,338
ME	2,556	-	506	150	-	-	180	-	59	99	-	-	-	\$ 3,550
MI	9,690	-	1,927	140	-	87	180	-	77	1,145	392	-	510	\$ 14,148
MICRO	1,855	-	109	-	-	-	-	-	-	398	-	-	-	\$ 2,362
MN	9,472	-	1,082	990	-	94	-	450	61	2,170	-	-	902	\$ 15,221
MO	9,584	4,068	1,766	140	-	-	180	275	87	6,143	-	1,186	-	\$ 23,429
MP	1,699	-	104	-	-	-	-	-	-	-	-	-	-	\$ 1,803
MS	7,277	2,385	1,870	-	-	87	-	370	103	846	392	886	-	\$ 14,216
MT	2,984	-	388	290	-	354	-	-	65	1,300	-	-	1,634	\$ 7,015
NC	12,327	4,331	2,793	1,060	-	86	180	450	105	1,960	-	1,121	-	\$ 24,413
ND	3,644	-	423	280	-	90	-	-	46	645	-	-	1,072	\$ 6,200
NE	5,379	-	619	140	-	-	280	-	46	12,360	-	-	340	\$ 19,164
NH	1,873	-	329	-	-	-	-	-	46	100	393	-	-	\$ 2,741
NJ	2,848	-	1,172	-	-	-	-	-	46	515	-	-	-	\$ 4,581
NM	2,342	-	611	-	-	86	180	-	68	2,115	-	-	719	\$ 6,121
NV	1,355	-	308	140	-	287	-	-	48	699	389	-	-	\$ 3,226
NY	8,886	-	3,512	150	-	-	-	-	86	10,793	-	-	-	\$ 23,427
OH	11,851	3,745	2,490	700	-	-	280	-	77	-	393	1,299	-	\$ 20,835
OK	6,105	2,545	1,261	560	1,488	228	-	-	80	500	-	992	-	\$ 13,759
OR	4,162	-	622	-	-	88	-	-	88	3,016	-	-	-	\$ 7,976
PA	11,122	-	2,754	-	-	-	180	-	81	799	-	-	-	\$ 14,936
PR	7,136	-	1,491	-	-	-	-	-	14	580	-	-	-	\$ 9,221
PW	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -
RI	1,192	-	391	140	-	-	-	199	46	781	-	-	-	\$ 2,749
SC	6,070	2,204	1,736	290	-	-	-	-	89	600	-	874	-	\$ 11,863
SD	3,896	-	467	280	-	-	180	-	46	600	392	-	510	\$ 6,371
TN	9,338	3,534	2,194	140	-	-	180	-	86	2,700	310	1,090	-	\$ 19,572
TX	14,128	5,570	4,792	280	-	-	180	-	112	350	-	1,511	-	\$ 26,923
UT	1,941	-	423	-	-	-	180	-	49	-	-	-	-	\$ 2,593
VA	7,746	2,944	1,894	280	-	-	180	-	101	2,386	-	993	-	\$ 16,524
VI	1,739	-	103	-	-	-	-	-	14	-	392	-	-	\$ 2,248
VT	2,008	-	322	140	-	-	-	828	46	-	-	-	-	\$ 3,344
WA	4,635	-	827	90	-	187	180	900	83	11,019	393	-	390	\$ 18,704
WI	9,594	-	1,059	140	-	91	180	-	80	1,201	-	-	922	\$ 13,267
WV	4,426	1,680	1,145	140	-	-	-	-	70	765	-	826	-	\$ 9,052
WY	1,787	-	278	-	-	95	-	-	51	300	-	-	-	\$ 2,511
FED ADMIN	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 7,790
FED ADMIN	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 19,562
TOTAL	305,682	54,721	69,403	8,060	1,488	3,076	4,425	7,682	3,594	94,692	3,839	18,944	7,679	\$ 610,637

TABLE 2 - FISCAL YEAR 2021
DISTRIBUTION OF FEDERAL PAYMENTS FOR EXTENSION ACTIVITIES

STATE	SMITH- LEVER FORMULA	FARM SAFETY YOUTH FARM SAFETY	1890's UNIV & TUSKEGEE UNIV	FEDERALLY- RECOGNIZED TRIBES	EFNEP	CHILDREN, YOUTH AND FAMILIES AT RISK	NEW TECH AT AG EXT	1890 FACILITIES
FED ADMIN	\$ 8,858	\$ 200	\$ 2,480	\$ 128	\$ 599	\$ 336	\$ 142	\$ 860
UNDIST	\$ 306,142	\$ 4,800	\$ 59,520	\$ 3,072	\$ 69,401	\$ 8,059	\$ 3,408	\$ 20,640
TOTAL	\$ 315,000	\$ 5,000	\$ 62,000	\$ 3,200	\$ 70,000	\$ 8,395	\$ 3,550	\$ 21,500
	RENEWABL E RESOURCES	RURAL HEALTH & SAFETY	FOOD SAFETY OUTREAC H	FEDERAL ADM-SPECIAL PROJECTS	EXTENSION AT 1994 INSTITUTION S	FARM STRESS ASSISTANCE NETWORK	WOMEN & MINORITIES IN STEM	TOTAL FEDERAL FUNDS
FED ADMIN	\$ 162	\$ 160	\$ 400	\$ 7,992	\$ 340	\$ 400	\$ 16	\$ 23,073
UNDIST	\$ 3,898	\$ 3,840	\$ 9,600	\$ 4,850	\$ 8,160	\$ 9,600	\$ 384	\$ 515,374
TOTAL	\$ 4,060	\$ 4,000	\$ 10,000	\$ 12,842	\$ 8,500	\$ 10,000	\$ 400	\$ 538,447

TABLE 3 - FISCAL YEAR 2022

DISTRIBUTION OF FEDERAL PAYMENTS FOR EXTENSION ACTIVITIES

STATE	SMITH- LEVER FORMULA	FARM SAFETY YOUTH FARM SAFETY EDUCATION & CERTIFICAT ION	1890's UNIV & TUSKEGEE UNIV	FEDERALLY- RECOGNIZED TRIBES	EFNEP	CHILDREN, YOUTH AND FAMILIES AT RISK	NEW TECH AT AG EXT	1890 FACILITIES
FEDERAL ADM	\$ 8,858	\$ 200	\$ 2,480	\$ 128	\$ 599	\$ 336	\$ 142	\$ 860
UNDISTRIBUTED	\$ 306,142	\$ 4,800	\$ 59,520	\$ 3,072	\$ 69,401	\$ 8,059	\$ 3,408	\$ 20,640
TOTAL	\$ 315,000	\$ 5,000	\$ 62,000	\$ 3,200	\$ 70,000	\$ 8,395	\$ 3,550	\$ 21,500
	RENEWABL E RESOURCES	RURAL HEALTH & SAFETY	FOOD SAFETY OUTREAC H	FEDERAL ADM & OTHER	EXTENSION AT 1994 INSTITUTION S	FARM STRESS ASSISTANCE NETWORK	WOMEN & MINORITIES IN STEM	TOTAL FEDERAL FUNDS
FED ADMIN	\$ 162	\$ 160	\$ 400	\$ 7,992	\$ 340	\$ 400	\$ 16	\$ 23,073
UNDISTRIBUTED	\$ 3,898	\$ 3,840	\$ 9,600	\$ 4,850	\$ 8,160	\$ 9,600	\$ 384	\$ 515,374
TOTAL	\$ 4,060	\$ 4,000	\$ 10,000	\$ 12,842	\$ 8,500	\$ 10,000	\$ 400	\$ 538,447

2022 USDA EXPLANATORY NOTES – NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

TABLE 1 - FISCAL YEAR 2020
DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED ACTIVITIES

STATE	FOOD AND AGRICULTURE DEFENSE INITIATIVE (FORMERLY HOMELAND SECURITY)	METHYL BROMIDE	ORGANIC TRANSITION - RISK ASSESSMENT	CROP PROTECTION/ PEST MANAGEMENT	REGIONAL RURAL DEVELOPMENT CENTERS	SPECIALTY CROP RESEARCH INITIATIVE	EMERGENCY CITRUS DISEASE RESEARCH AND DEVELOPMENT TRUST FUND	ORGANIC AGRICULTURAL RESEARCH AND EXTENSION INITIATIVE	TOTAL FEDERAL FUNDS
AK	-	-	-	169	-	-	-	-	\$ 169
AL	131	-	-	281	-	-	-	-	\$ 412
AR	131	-	-	514	-	-	-	-	\$ 645
AS	-	-	-	-	-	-	-	-	\$ -
AZ	131	-	-	275	-	49	-	-	\$ 455
CA	982	911	-	1,209	-	6,896	12,582	1,000	\$ 23,580
CO	-	-	-	159	-	-	-	-	\$ 159
CT	131	-	-	190	-	-	1,498	-	\$ 1,819
DC	-	-	-	-	-	-	-	50	\$ 50
DE	131	-	-	171	-	-	-	-	\$ 302
FL	823	-	-	230	-	7,505	14,522	2,541	\$ 25,621
GA	432	-	500	514	-	10,484	-	-	\$ 11,930
GU	-	-	-	23	-	-	-	-	\$ 23
HI	131	-	-	32	-	-	-	-	\$ 163
IA	295	-	-	491	-	-	-	-	\$ 786
ID	-	498	500	502	-	5,756	-	-	\$ 7,256
IL	-	-	-	207	-	-	-	1,997	\$ 2,204
IN	624	-	-	291	475	-	-	-	\$ 1,390
KS	437	-	413	591	-	-	-	-	\$ 1,441
KY	131	-	-	144	-	50	-	-	\$ 325
LA	-	-	-	644	-	100	-	-	\$ 744
MA	-	-	-	289	-	-	-	-	\$ 289
MD	-	-	-	547	-	-	2,443	-	\$ 2,990
ME	-	-	-	185	-	-	-	-	\$ 185
MI	1,139	-	-	1,538	-	14,943	-	-	\$ 17,620
MICRO	-	-	-	-	-	-	-	-	\$ -
MN	-	-	500	211	-	-	-	999	\$ 1,710
MO	295	-	422	187	-	-	-	-	\$ 904
MP	-	-	-	-	-	-	-	-	\$ -
MS	-	-	-	155	475	50	9,380	-	\$ 10,060
MT	-	-	-	491	-	-	-	-	\$ 491
NC	295	-	474	1,756	-	-	-	-	\$ 2,525
ND	-	-	-	177	-	-	-	-	\$ 177
NE	-	-	475	404	-	-	-	-	\$ 879
NH	-	-	-	143	-	-	-	1,977	\$ 2,120
NJ	131	-	-	118	-	-	-	-	\$ 249
NM	-	-	-	211	-	-	4,760	-	\$ 4,971
NV	-	-	-	228	-	-	-	-	\$ 228
NY	295	-	417	1,475	-	4,883	-	4,488	\$ 11,558
OH	295	-	-	242	-	-	-	-	\$ 537
OK	-	-	-	-	-	-	-	-	\$ -
OR	-	-	-	579	-	2,999	-	2,047	\$ 5,625
PA	295	491	-	238	475	-	-	1,511	\$ 3,010
PR	-	-	-	127	-	-	-	-	\$ 127
PW	-	-	-	-	-	-	-	-	\$ -
RI	-	-	-	126	-	-	-	-	\$ 126
SC	-	-	500	192	-	4,973	-	-	\$ 5,665
SD	-	-	-	120	-	-	-	-	\$ 120
TN	-	-	498	509	-	3,556	-	378	\$ 4,941
TX	595	-	500	190	-	4,353	-	-	\$ 5,638
UT	-	-	-	127	475	-	-	-	\$ 602
VA	-	-	-	190	-	3,998	-	-	\$ 4,188
VI	-	-	-	-	-	-	-	-	\$ -
VT	-	-	-	274	-	-	-	100	\$ 374
WA	-	-	500	491	-	1,030	-	127	\$ 2,148
WI	-	-	-	576	-	-	-	1,000	\$ 1,576
WV	-	-	-	93	-	-	-	-	\$ 93
WY	131	-	-	170	-	-	-	-	\$ 301
SBIR	-	20	61	205	20	1,156	361	197	\$ 2,020
FED ADMIN	-	-	-	-	-	-	-	-	\$ -
FED ADMIN	-	-	-	-	-	-	-	-	\$ 5,797
TOTAL	\$ 7,981	\$ 1,920	\$ 5,760	\$ 19,201	\$ 1,920	\$ 72,988	\$ 45,859	\$ 18,497	\$ 179,923

TABLE 2 - FISCAL YEAR 2021
DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED PAYMENTS

STATE	METHYL BROMIDE	ORGANIC TRANSITION - RISK ASSESSMENT	CROP PROTECTION/ PEST MANAGEMENT PROGRAMS	REGIONAL RURAL DEVELOPMENT CENTERS	FOOD AND AGRICULTURE DEFENSE INITIATIVE (FORMERLY HOMELAND SECURITY)	TOTAL FEDERAL FUNDS
SBIR	\$ 20	\$ 72	\$ 205	\$ 20	\$ -	\$ 317
BIOTECH RISK	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FED ADMIN	\$ 80	\$ 280	\$ 800	\$ 80	\$ 320	\$ 1,560
PAYMENTS						
TO STATES	\$ 1,900	\$ 6,648	\$ 18,995	\$ 1,900	\$ 7,680	\$ 37,123
TOTAL	\$ 2,000	\$ 7,000	\$ 20,000	\$ 2,000	\$ 8,000	\$ 39,000

TABLE 3 - FISCAL YEAR 2022
DISTRIBUTION OF FEDERAL PAYMENTS FOR INTEGRATED PAYMENTS

STATE	METHYL BROMIDE	ORGANIC TRANSITION- RISK	CROP PROTECTION/ PEST	REGIONAL RURAL DEVELOPMENT	FOOD AND AGRICULTURE DEFENSE INITIATIVE	TOTAL FEDERAL FUNDS
SBIR	\$ 20	\$ 72	\$ 205	\$ 20	\$ -	\$ 317
BIOTECH RISK	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FED ADMIN	\$ 80	\$ 280	\$ 800	\$ 80	\$ 320	\$ 1,560
PAYMENT S TO						\$ -
STATES	\$ 1,900	\$ 6,648	\$ 18,995	\$ 1,900	\$ 7,680	\$ 37,123
TOTAL	\$ 2,000	\$ 7,000	\$ 20,000	\$ 2,000	\$ 8,000	\$ 39,000

CLASSIFICATION BY OBJECTS*Table NIFA-3 Classification by Objects (thousands of dollars)*

Item No.	Item	2019 Actual	2020 Actual	2021 Estimate	2022 Budget
	Personnel Compensation:				
	Washington D.C.	\$27,938	\$6,336	\$2,023	\$2,023
	Personnel Compensation, Field	-	8,989	26,883	26,883
11	Total personnel compensation	27,938	15,325	28,906	28,906
12	Personal benefits	13,442	8,306	14,381	14,381
13.0	Benefits for former personnel	45	1,083	-	-
	Total, personnel comp. and benefits	41,425	24,714	43,287	43,287
	Other Objects:				
21.0	Travel and transportation of persons	1,844	414	2,257	2,257
22.0	Transportation of things	517	62	554	554
23.1	Rental payments to GSA	5,888	2097	2	2
23.3	Communications, utilities, and misc. charges	1,476	1,457	1,544	1,544
24.0	Printing and reproduction	221	135	230	230
25.1	Advisory and assistance services	9,210	8,859	5,557	5,557
25.2	Other services from non-Federal sources	3,833	6,327	620	620
25.3	Other goods and services from Federal sources	3,615	5,307	7,854	7,854
25.4	Operation and maintenance of facilities	25	33,587	3,452	3,452
25.5	Research and development contracts	15,633		17,011	17,011
25.7	Operation and maintenance of equipment	-	-	36	36
25.8	Subsistence and Support of Persons	-	-	138	138
26.0	Supplies and materials	66	61	100	100
31.0	Equipment	7	47	670	670
41.0	Grants, subsidies, and contributions	1,558,022	1,687,818	2,519,0180	2,095,750
42.0	Insurance Claims and Indemnities	-	9	-	-
43.0	Interest and Dividends	2	-	-	-
	Total, Other Objects	1,600,359	1,746,743	2,559,043	2,135,775
99.9	Total, new obligations*	1,641,784	1,771,457	2,602,330	2,179,062
	DHS Building Security Payments (included in 25.3)	\$993	\$185	\$984	\$1,001
	Information Technology Investments:.....				
	Name of Major Investment.....				
11	Internal Labor.....	-	-		
	External Labor (Contractors).....	-	-		
25.2	Outside Services (Consulting).....	-	-		
	Mission Area Non-Major Investment Totals.	\$20,564	\$18,020	\$18,740	\$19,288
	Mission Area Standard Investment Totals.	-	-		
25.3	Mission Area WCF Transfers.....	-	2,323	2,676	2,479
	Position Data:				
	Average Salary (dollars), ES Position	\$191,343	\$197,886	\$199,865	\$201,955
	Average Salary (dollars), GS Position	\$111,533	\$114,153	\$115,295	\$116,501
	Average Grade, GS Position	12.3	12.0	12.0	12.0

STATUS OF PROGRAMS**National Institute of Food and Agriculture*****Current Activities*****Research and Education Activities*****Selected Examples of Recent Progress*****Hatch Capacity Program**

Listeria can cause foodborne infections and even death in humans and poses a major threat to food safety due to its biofilm properties that are often sanitizer resistant. The University of Connecticut is combining the antimicrobial efficacy of Generally Recognized as Safe (GRAS) status ozone gas with ultra-fine bubble technology to develop rapid-acting sanitizers for inactivating Listeria biofilms.

Hatch Multistate Capacity Program

Mosquito- and tick-borne diseases are on the rise globally, with new, regional outbreaks emerging due to the spread of these vectors. Researchers in this multistate project are monitoring mosquito and tick vectors, developing new trapping and pathogen detection techniques, and providing information on the risk of human infection in real time. The project combines understanding the biology and ecology of diseases and their vectors to create and evaluate effective intervention campaigns for human populations.

McIntire Stennis

When wildland fires occur in recently planted or naturally regenerated forests, the impacts of those fires on the survival and future productivity of fire-damaged saplings of different species is not well understood. The University of Idaho's state-of-the-art fire combustion lab exposed saplings of different commercial forest species (Ponderosa pine, lodgepole pine, western larch) to known quantities of fire intensity. Results show that not all saplings die following fire, although their growth is reduced for up to a year following fire and sapling growth declines proportionally to the fire intensity level. This research provides a science-based tool to help forecast how those saplings will react to fire.

Evans-Allen Capacity Program

Researchers at Tennessee State University used molecular tools to explore genetic diversity in grain amaranth, a relatively new crop to the Southeastern United States. The work focused on genetic adaptation to heat stress, the major abiotic limitation in the region, as well as photosynthetic efficiency for grain amaranth in order to encourage growers to adopt this crop more widely.

Sustainable Agriculture Research and Education Program

A two-year educational program in West Virginia demonstrated the value of preventative veterinary services to more than 400 livestock producers, introduced techniques to obtain cost-effective services, and provided instruction that resulted in changes in farm management. Producers participated in educational events and completed the verification tool designed to determine the current status of preventative veterinary support. Nearly 100 producers participated in various hands-on animal health training sessions, workshops, and field days on topics ranging from "Animal Ethics and Body Condition" to "Small Ruminant Management." A survey of participants indicated that 100% learned new information and are planning to make livestock management changes based on their participation in this program.

Minor Crop Pest Management Program (IR4)

The IR-4 Project supported over 2,115 new registrations of safe and effective chemical and bio-based pesticides needed to protect fruits, vegetables, nuts, herbs, and other specialty food crops from destructive pests in 2019 and 2020. Research also protected over 2,665 uses on ornamental crops. IR-4 research also supported the registration of prohexadione calcium plant growth regulator for alfalfa interplanted with silage corn. This product encourages root growth while limiting shoot growth, thus improving the alfalfa seedling's chances of survival as much as 400%.

Small Business Innovation Research

Fish diseases resulting from pathogens are a significant challenge to maintaining U.S. competitiveness in a labor-effective and cost-effective way in the aquaculture industry. Applied Biotechnology Institute, Inc. of California completed the pilot for developing the first commercial oral vaccine for Pancreas Disease for commercial fish livestock using bioencapsulation in corn grain. This innovation sets a precedent for using immunizations (vaccines) for several fish diseases and opportunities for U.S. aquaculture

Extension Activities

Selected Examples of Recent Progress

Rural Health and Safety Education (RHSE)

The University of the Virgin Islands (USVI), is leading a two-year pilot outreach program to inform the community of coronavirus by leveraging access and information in health to limit the spread. They are utilizing UVI Extension professionals offering listening (counseling) sessions in the topics (agriculture, nutrition, food security through gardening and mental health) to allow experts to talk about and listen to participants share about how they are dealing with COVID-19 as a disease, what they are doing to shelter in place, if they are accessing health services and how they are holding up as far as mental health. FY 20 (Year 1) is the listen and learning stage; FY21 (Year 2) is the actively engaging themselves, their families and sharing knowledge with others reducing stress and increasing participants ability to grow foods they can eat that matches their personal taste and preferences.

Food Safety Outreach Program

Although the Food Safety Modernization Act (FSMA) promises improvements in U.S. food safety, the regulatory burden has created confusion and anxiety among small farmers. This is especially true in Hawaii, where land, labor, and energy are relatively expensive, challenging profitability for agriculture. In response, the Hawaii Roots organization leveraged funding from the NIFA Food Safety Outreach Program to develop a Regional FSMA Center. The curriculum recently developed was community-based and culturally informed and communicated local knowledge to achieve success with regulatory issues such as water quality. Increasing the confidence of participants improved their willingness to embrace food safety advances on community farms and share their enthusiasm for cooperation with regulatory authorities.

Smith-Lever 3(d)

EFNEP

In the past 12 months, the Expanded Food and Nutrition Education Program (EFNEP) delivered by North Carolina Agricultural & Technical State University partnered with local food distribution and health education organizations in Guilford County. EFNEP provided virtual education about proper food storage and preparation of fruits and vegetables through easy, healthy recipes. Together with partners, EFNEP quickly responded to the sudden increase in need, which had quadrupled as of May 5, 2020. This is one example of how EFNEP is reaching the most vulnerable populations, supporting food security, and delivering nutrition education programming to low-income families on food safety, food preparation skills, and consuming foods that support health.

Children, Youth and Families at Risk (CYFAR)

Montana State University FY 20 CYFAR Sustainable Communities project focuses on launching a community campaign that includes youth, their teachers, leaders, and mentors who will engage community organizations, businesses, and leaders in a broad campaign of education around social and emotional wellness, especially mental health. The communities in which this project is taking place are primarily Native American, whose youth suffer from higher rates of emotional distress. This will be done by developing youth leaders who will engage their community through technology that educates people on social and emotional wellness issues, especially mental health. Students will develop a phone app that community members can use for games and other fun activities related to social and emotional health. The primary and most important aspect of this project is the connection between youth (school) and community to come together around social and emotional wellness issues. It is the hope that after five years, the participating communities will be much more aware of and willing to talk about mental health issues and will work together to combat them.

Enhancing Agricultural Opportunities for Military Veterans (AgVets)

Arcadia Farm is a hands-on community engagement educational farm located at Woodlawn Estate near Washington, DC. It aims to teach all members of the community to farm in a sustainable and environmentally friendly way through such practices as cover cropping, integrated pest management, low tillage, composting, crop rotation and no synthetic sprays. In addition, Arcadia has three areas dedicated to veteran farmers. Veteran Farmer Reserve Program, Veteran Farm Fellowship Program, and Veteran Land Access are funded through the National Institute of Food and Agriculture's (NIFA) Enhancing Agricultural Opportunities for Military Veterans and Beginning Farmer and Rancher Competitive grants. These grants help to transform veterans' military identity to that of a civilian member in farming and promote self-resiliency and well-being.

Integrated Activities

Selected Examples of Recent Progress

Regional Rural Development Centers (RRDCs)

The RRDCs are uniquely positioned to connect and support multi-state groups such as the National Extension Climate Initiative. Through this work, the RRDCs harness the capacity of the Land Grant's Cooperative Extension Service to address issues of climate change and sustainability and to reach rural audiences that have a long history of partnering with Extension.

With leadership from the RRDCs, the Coming Together for Racial Understanding initiative, formed as a rapid response team by the Extension Committee on Organization and Policy in 2016, has since trained 80 Extension professionals from 29 states to help communities engage in civil dialogues around racial issues. The dialogue-to-change model is guiding positive change.

Food and Agriculture Defense Initiative (FADI)

National Animal Health Laboratory Network

In 2020, the National Animal Health Laboratory Network (NAHLN) continued to work as a team to provide ongoing disease surveillance, respond quickly to disease events, communicate diagnostic outcomes to decision makers in a timely manner, and meet diagnostic needs during animal disease outbreaks. NAHLN rapidly responded to the threat of COVID-19 by developing the capability to test for SARS-CoV-2 and working together to build capacity. Many NAHLN laboratories have been asked to further support their state's COVID-19 response by sharing equipment, reagents, and even analysts with their public health laboratories. The NAHLN labs were the first to identify SARS-CoV-2 in an animal species, a tiger from the Bronx Zoo. Currently there are 37 NAHLN laboratories capable of testing for SARS-CoV-2. Any presumptive positive animal samples identified in NAHLN laboratories are sent to the National Veterinary Services Laboratories (NVSL) for confirmatory testing. Twenty-five NAHLN laboratories are also approved to test human samples for SARS-CoV-2 and they have provided approximately 2.5 million tests. A One Health approach is being employed.

National Plant Diagnostic Network

In FY 2020, the National Plant Diagnostic Network continued to improve producer understanding and accessibility to diagnostic information on and various tools (bioassay, conventional, molecular, serological, sequencing, and others) for routine pests and emerging and remerging threats to agriculture and food production. The network tested nearly 700,000 samples, including samples for highly regulated pathogens and worked closely with the Animal and Plant Health Inspection Service to provide surge capacity for regulated pests. The network reported first occurrence of more than 150 pests/diseases in various states and territories, including several for the first time in the United States, such as the first report of cotton leaf curl Gezira virus in cotton in Texas; cotton leafroll dwarf virus in Alabama, Georgia, and Texas; Walnut twig beetle in South Carolina; Fusarium proliferatum fungus in peach; and Meloidogyne incognita nematode in hemp.

Extension Disaster Education Network (EDEN)

EDEN gathered impacts of Extension's delivery of services in the wake of COVID-19; collecting 1160 entries on COVID-related programming and identifying innovative ways to deliver preexisting programming. EDEN used focus groups from across the nation to learn about regional priorities and current gaps that could inform priorities for the competitive grants program.

Crop Protection and Pest Management Program

The Groundswell Center for Local Food & Farming, based in Central New York, engaged 1,460 participants in 37 unique programs/services between October 2019 and September 2020. Of those who provided data, 28% were people of color, 19% low-income, 45% were beginning farmers and 6% were experienced farmers. Additionally, Groundswell has been successfully transitioning their Incubator Farm to a Community Farm model, which has meant supporting increased autonomy and skills of the 26 individual farmers (11 businesses) there (80% of who are refugees).

A project at Penn State University found that electrostatic mesh (eaves tubes) impregnated with insecticides effectively killed mushroom phorid flies. The exit vents and windows were identified as the key areas for implementing electrostatic mesh. If successful, implementation of eaves tube technology will result in an effective, affordable and environmentally sound IPM strategy for managing the mushroom phorid flies in mushroom growing operations in the future.

A project at Montana State University is integrating different techniques to limit the number of herbicide-resistant weed seeds by combining different methods for controlling weeds. These include crop seeding rates, height of different crop varieties, and targeted grazing. Targeted grazing of forage crops reduced weeds by removing biomass and limiting seed production. Higher seeding rates also helped reduce weed biomass and seeds produced by producing a more competitive crop. This information is being used to develop a simulation model to determine which rotational sequence will limit seed production the best, which will help growers better manage multiple herbicide-resistant weeds in the future.

Mandatory Funds

Selected Examples of Recent Progress

Extension Risk Management Education (ERME)

Agriculture in Oklahoma endures economic burdens originating from depressed prices, weather, and other industry shocks. Oklahoma State University is focusing on assisting producers to mitigate the production and financial risks that have plagued Oklahoma agriculture for years. This assistance will come through education on the assortment of USDA insurance products available such as Multi-Peril Crop Insurance, Pasture, Rangeland, and Forage, Livestock Risk Protection and the Noninsured Crop Disaster Program. The mix of presentations and experiential activities will provide knowledge of product options, the ability to apply it to their specific operation and understanding of how the investment will impact their operation. These lessons will strengthen their resilience to natural disasters, preserve equity positions and cash flow and provide a stronger financial base to build upon. There will be a minimum of 10 training activities for crop and livestock producers across Oklahoma, with the workshops tailored to that location's commodities. Working with the Oklahoma Women in Ag, Oklahoma Veteran Affairs, and various Native American tribal organizations, this proposal intends to target traditionally underserved Oklahoma producers.

Beginning Farmer and Rancher Development Program

The Ohio Ecological Food and Farm Association launched the Dairy Grazing Apprenticeship Program to prepare beginning farmers to become managers of grazed dairy operations. The 2019 Heartland Farm Beginnings® class graduated 13 active participants representing 8 farms, and the current cohort of 22 participants (15 farms) is the largest ever. The course guides early-career beginning farmers to develop a whole farm plan through realistic goal setting, financial management, and assessment of resources, skills, and markets. Participants receive the business planning tools necessary to successfully implement their plan.

Organic Agriculture Research and Extension Initiative

The Organic Agriculture Research and Extension Initiative provided support to the Northern Organic Vegetable Improvement Collaborative (NOVIC) to provide organic farmers access to seed varieties that are adapted to their organic farms and regional climates. Early results included: improved varieties of broccoli and sweet corn, new germplasm (carrots, butternut squash, edible pod peas), two books on organic plant breeding, four graduate students trained in organic plant breeding, and trained over 130 farmers and seed growers from across the United States in on-farm plant breeding and selection. The project also is addressing late blight resistance in tomatoes for production in cooler climates; early maturing, disease and blossom end rot resistant tomatoes; cold tolerant, open-pollinated, red and green cabbage; long storing, powdery mildew resistant winter squash; early, high-yielding blocky red bell

pepper; early maturity open-pollinated sugary-enhanced sweet corn; and fertile gynoeocious cucumbers where maintenance is based on genetic control rather than synthetic hormones.

Emergency Citrus Disease Research and Extension Program

From 2015 to 2020, an interdisciplinary team of researchers at the University of Florida, University of Central Florida, Auburn University, The Ohio State University’s Citrus Research and Extension Center, University of Tennessee’s Citrus Research & Education Center, and New Mexico State University developed a novel plant nutrient-based bactericide, known as Zinkicide, in an effort to combat the bacterium that causes the devastating citrus disease, Huanglongbing (HLB), commonly known as citrus greening. Trials of this bactericide showed significant improvement in the productivity of HLB infected citrus trees, with up to a 70% increase in fruit yield per treated tree. Zinkicide is in development for commercial use in the United States and is poised to provide an economically - as well as environmentally - sound HLB management option for the citrus industry.

SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM

The Small Business Innovation Research Act (SBIR), codified at §9 of the Small Business Act, 15 U.S.C. §638 was designed to strengthen the role of small, innovative firms in federally funded research and development. Under this program, the Small Business Act requires SBIR participating agencies to allocate a certain percentage of its extramural R/R&D budget to fund small business R/R&D activities through the SBIR Program.

The National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328, §1834(a) Extension of SBIR and STTR programs) amended the SBIR Small Business Act (15 U.S.C. 638) and extended its implementation through September 30, 2022. The act mandates that not less than 3.2 percent of federal agency expenditures in budget years FY 2017, and each fiscal year thereafter, which has an extramural budget for research and development funds, are set-aside and used to fund the SBIR program.

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

Agency	2019	2020	2021	2022
Agricultural Research Service	\$2,810	\$3,421	\$4,413	\$4,413
Animal and Plant Health Inspection Service	31	50	31	31
National Institute of Food and Agriculture	23,660	25,480	26,183	26,183
Economic Research Service	122	130	152	152
Forest Service	962	927	1,182	1,182
National Agriculture Statistics Service	17	32	22	22
Total	27,602	30,040	31,983	31,983

Note: Estimates are provided for 2021 and 2022. A report to the Small Business Administration for planned investments in 2021 and 2022 will be updated based on final appropriations.

The staff functions of USDA’s SBIR program 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 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 production of animal and plant species in both freshwater and marine environments.
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-size 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 2022 RFA Publication Dates for AFRI are January 2022 for the Foundational and Applied Science and the Education and Workforce Development RFAs and December 2021 for the Sustainable Agricultural Systems RFA. NIFA will continue to release the Foundational and Applied Science RFA and Education and Workforce Development RFA as a single funding opportunity announcement for each program spanning two years of appropriations (i.e., 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 2022 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: 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 this document.

Through AFRI, NIFA seeks to ensure our nation’s food security by addressing the challenges that U.S. agriculture faces, promoting America’s global competitive edge in agricultural exports, and supporting the country’s investments in agricultural research, education, and extension. A major food systems challenge is the need to substantially increase food production for ensuring nutrition security for a burgeoning global population, projected to approach ten billion in just three decades. Increased domestic and global production of food, however, must occur on diminishing arable land and increasingly adverse impacts of climate change. Additionally, American agriculture will need to maintain its global competitive edge, particularly over nations such as China 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.

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 several crosscutting programs that 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 and minority-serving institutions, which is essential for continued development of the next generation of diverse scientists 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 knowledge base required for subsequent transformative future research, extension, and education programs at NIFA (including 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. Having learned from the need to respond rapidly to the COVID-19 pandemic during which NIFA swiftly awarded more than \$25 million to COVID-19 Rapid Response competitive grants in FY 2020, NIFA will invest 5% of AFRI appropriations in critical emerging issues in FY 2022.

Through AFRI grants, NIFA will support the FY 2022 Administration priorities of addressing climate change, developing and using clean energy, rebuilding the economy, and promoting prosperity in America’s disadvantaged, marginalized and under-served communities.

Agriculture and Food Research Initiative Requests for Applications

In FY 2022, 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 2022.

FY 2022 President’s Budget	
Program	New Grant Awards
Agriculture and Food Research Initiative	\$700,000,000

The NIFA 2022 budget proposes to support the AFRI program at \$700,000,000, which includes:

- Development of climate-smart and carbon-neutral agriculture to achieve net-zero greenhouse gas emissions by 2050;
- Development of clean energy and other high-value biobased products from agricultural feedstocks;
- Increased investment in the Foundational and Applied Science Program, including continuation of the increased support for new investigators and increased award size commensurate with the scope of foundational work required and for promoting equity and inclusion in agricultural sciences, such as increased investments in challenges faced by disadvantaged and underserved communities;
- Increased investment in the Sustainable Agricultural Systems Program, to support innovative, transformative, integrated, and transdisciplinary systems-level approaches to promote development of climate-smart and carbon-neutral agriculture for improved production systems;
- Increased investments in the Education and Workforce Development program for training and retraining of agricultural workers and next generation of agricultural scientists,;
- Increased support for Plant and Animal Breeding, including adaption and resiliency to climate change;
- Additional support for research on application of emerging advanced technologies such as gene editing, robotics, and artificial intelligence;
- Continued support for high priority areas including production agriculture, soil health, agricultural biosecurity, food and agricultural microbiomes, food safety, and pollinator health;
- Continued fostering of interagency collaborations to leverage greater investment in agriculturally-relevant areas of science, and to attract new communities of scientists to address challenging agricultural issues.

AFRI Requests for Applications (RFA):

Foundational and Applied Science RFA | The AFRI Foundational and Applied Science RFA is organized by, and directly aligns with, the six priority areas established in the Farm Bill. The Foundational and Applied Science Program priorities are designed to include the scope of topics listed within each of the six AFRI priority areas established in the Farm Bill. NIFA will invest \$455 million (65%) of appropriated AFRI funds to support new grants in the Foundational and Applied Science Program, as well as interagency programs. These investments will allow increased foundational efforts on mitigation, adaptation and resiliency of agricultural systems to climate change, as well as 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

continue increased investments in the plant and animal breeding program area priorities that support classical breeding efforts to improve crop and animal productivity, local adaptation of cultivars and breeds, and development of public cultivars. Investments will be made through interagency programs related to technology and data-driven solutions in agriculture such as the application of artificial intelligence to climate-smart agriculture and food systems. 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, and production of new agriculture-based products, including clean energy. Enhanced investments will also foster research on agricultural biosecurity; on precision livestock farming; on the microbiome of foods, human gut, 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.

- Improve mitigation, adaptation and resiliency of agricultural systems to climate change in all program areas and cross-cutting programs;
- Enhance capacity of diverse educational institutions, promote equity and inclusion, and serve disadvantaged and underserved communities through increased proportion of Food and Agricultural Science Enhancement (FASE) awards;
- Increase support for new investigators through awarding of more New Investigator Seed Grants and New Investigator Standard Grants;
- Increase award size commensurate with the scope of foundational work required;

Request for Applications (RFA)	New Grant Awards
Foundational and Applied Science Program	\$455,000,000

Sustainable Agricultural Systems RFA | In FY 2022, NIFA will invest \$175 million (25%) 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 support of the Administration’s climate mitigation, adaptation and resilience efforts, including development of climate-smart carbon-neutral agriculture and utilization of clean energy to achieve net-zero emissions of greenhouse gases by 2050. The integrated transdisciplinary approach taken in the Sustainable Agricultural Systems Program will enable NIFA’s goal of advancing the convergence of agricultural and food sciences with engineering, social sciences, nanotechnology, computational sciences, and advanced manufacturing to generate new scientific discoveries, new products, new markets and, consequently, new high-skill jobs. These systems-level projects will marshal the many facets of the agricultural system, from farms to supply-chain businesses to consumers, to transform the way we produce, process, transport, and consume food. In doing so, it will address interrelated challenges of agricultural productivity, climate change, 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:

- **Climate-smart agriculture:** Improve mitigation, adaptation and resiliency of agricultural systems to climate change.
- Develop sources of clean energy and other high-value biobased products from agricultural feedstocks to foster economic development and prosperity, especially in socially disadvantaged and under-served communities.
- **Nutrition Security:** Enhance the contribution of food and agriculture to health of the nation through development, adoption, and application of new or existing technologies, tools, education, and other resources to ensure access to sufficient quantities of safe, nutritious, and affordable food.
- Invest in systems-level Coordinated Agricultural Projects (CAPs) 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.
- Offer opportunities for mid-size integrated projects of up to \$5 million each that include Research, Education and Extension.

Request for Applications (RFA)	New Grant Awards
Sustainable Agricultural Systems Program	\$175,000

Education and Workforce Development RFA | NIFA will invest \$70 million (10%) of appropriated AFRI funding in Education and Workforce Development for 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 literacy 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. This will also include training or retraining of agricultural workers for the new economy - technology and data-savvy workforce, ready for the field and industrial jobs; 2) developing pathways by providing undergraduates in agriculture and allied disciplines with the applied technical and leadership skills required for careers in agricultural sectors and farming enterprises or in graduate programs; and 3) advancing science to support graduate and post-graduate education in agriculture and related disciplines through pre- and post-doctoral fellowships. This investment will address the projected shortfalls in the availability of qualified agricultural workers within the United States.

- Workforce development at diverse educational institutions, promote equity and inclusion, and serve disadvantaged and underserved communities;
- Increase support for STEM education.

Request for Applications (RFA)	New Grant Awards
Education and Workforce Development Program	\$70,000,000

Table 1. Funding allocations by Request for Applications for the FY 2022 President’s Budget for the Agriculture and Food Research Initiative (AFRI).

FY 2022 President’s Budget	
Program	New Grant Awards
Agriculture and Food Research Initiative	\$700,000,000
Request for Applications (RFA)	
Foundational and Applied Science Program ¹	\$455,000,000
Sustainable Agricultural Systems Program	\$175,000,000
Education and Workforce Development Program	\$70,000,000

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

Table 2. Estimated funding allocations by Farm Bill Priority Area for the FY 2022 President’s Budget for the Agriculture and Food Research Initiative (AFRI).

FY 2022 President’s Budget				
Farm Bill Priority Area	Agriculture and Food Research Initiative	RFA Topic Area		
		Foundational and Applied Science	Sustainable Agricultural Systems	Education and Workforce Development
A. Plant Health and Production and Plant Products	24%	23%	26%	28%
B. Animal Health and Production and Animal Products	21%	21%	23%	22%

C. Food Safety, Nutrition, and Health	15%	14%	15%	20%
D. Bioenergy, Natural Resources, and Environment	15%	15%	14%	15%
E. Agriculture Systems and Technology	16%	17%	12%	15%
F. Agriculture Economics and Rural Communities	9%	10%	10%	10%

Table 3. Funding allocations by Request for Applications for FY 2018 to FY 2021 appropriations, and FY 2022 President's Budget for the Agriculture and Food Research Initiative (AFRI).

AFRI Program Areas	2018 Enacted	2019 Enacted	2020 Enacted	2021 Enacted	2022 President's Budget
Sustainable Agricultural Systems Program	85,537,000	98,374,000	87,351,000	78,022,000	175,000,000
Sustainable Bioenergy Challenge Area	10,465,000 ¹	---	---	---	---
Climate Variability and Change Challenge	---	---	---	---	---
Water for Food Production Systems	27,485,000 ¹	---	---	---	---
Childhood Obesity Prevention Challenge	14,168,000 ¹	---	---	---	---
Food Safety Challenge Area	4,909,000 ¹	---	---	---	---
<i>SUBTOTAL</i>	142,564,000	98,374,000	87,351,000	78,022,000	175,000,000
Foundational and Applied Science Program	230,930,000	273,282,000	279,647,000	298,601,000	455,000,000
Education and Workforce Development Program	26,506,000	43,344,000	58,002,000	58,377,000	70,000,000
<i>Total</i>	400,000,000	415,000,000	425,000,000	435,000,000	700,000,000

¹ Funding for Challenge Areas in FY 2018 was for existing grants only

OTHER COMPETITIVE PROGRAM RFAS

Non-AFRI competitive programs Requests for Application are listed below. FY 2022 estimates for discretionary funding are based on the FY 2021 Full-Year Appropriations. Programs funded by mandatory funding are included based on the Agriculture Improvement Act of 2018 (2018 Farm Bill). FY 2021 mandatory funding reflects the impact of a 5.7 percent sequestration reduction.

Program	Authority	Scope of RFA and Budget Justification	2021 Enacted (\$000s)	2022 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	The FY 2021 RFAs will fund four regional centers and one national coordination center which were selected in FY 2018 through a rigorous competitive review process. The centers will emphasize innovative projects to help farmers and ranchers to adopt practices that are productive, profitable, environmentally sound, and enhance the quality of life for farmers and society as a whole. Proposals for projects are submitted by scientists at academic institutions, public and private sector agricultural professionals and directly by farmers and ranchers. To promote development of the next generation of agricultural scientists the SARE program has also pioneered accepting grant applications directly from graduate students in agricultural discipline. Grants awarded by the four regional administrative councils will support applied projects that address crop and livestock production and marketing, stewardship of private lands, the 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.	\$40,000	\$60,000	2021: December 2020 2022: December 2021

		The FY 2022 RFA will continue funding the centers for competitively reviewed projects to help farmers and ranchers.			
Methyl Bromide	7 U.S.C. 7626	<p>The FY 2021 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 and extension-only projects. The program focuses on integrated commercial and field-scale research on methyl bromide alternatives and associated extension activities that foster the adoption of these alternatives. The program will support new methodologies, technologies, strategies, and systems for controlling economically important pests for which methyl bromide has been the only effective pest control option.</p> <p>The FY 2022 RFA will consist of similar priorities to the FY 2021 RFA.</p>	\$2,000	\$2,000	<p>2021: December 15, 2020</p> <p>2022: December 15, 2021</p>
Minor Crop Pest Management Program – Interregional Research Project #4 (IR-4)	7 U.S.C. 3157(c)	<p>The FY 2021 RFA will focus on continued funding for projects that provide safe, effective, and economical pest management solutions for minor agricultural uses and specialty crops. NIFA anticipates funding one national project that will consist of an administrative headquarters and four geographically based regional IR-4 centers (North Central, Northeastern, Southern, and Western). The funding period will be four years and the project will be funded as a continuation project.</p> <p>Since this will be a continuation project, there will not be an RFA in FY 2022.</p>	\$11,913	\$20,000	<p>2021: December 15, 2020</p> <p>2022: N/A</p>

Organic Transition Program (ORG)	7 U.S.C. 7626	<p>The FY 2021 and FY 2022 RFAs will focus on the development and implementation of research, extension, and higher education programs to solve critical organic agriculture issues, priorities, or problems to improve the competitiveness of organic livestock and crop producers, as well as those who are adopting organic practices. Practices and systems to be addressed include those associated with organic crops, organic animal production, and organic systems that integrate crop and animal production. The program will focus on (1) Documenting and understanding the effects of organic practices on soil health and fertility, greenhouse gas mitigation, enhanced biodiversity, and understanding of weed, pest and disease dynamics for better management; (2) Developing improved technologies, methods, models, and metrics to document and optimize the ecosystem services and the climate variability adaptation and mitigation ability of organic crop, livestock, and integrated crop-livestock production systems; (3) Developing cultural practices and other allowable alternatives to substances recommended for removal from NOP's National List of Allowed and Prohibited Substances; and (4) Overcoming barriers to organic transition.</p> <p>The FY 2022 RFA will include priorities similar to the FY 2021 priorities.</p>	\$7,000	\$7,000	<p>2021: December 15, 2020 – March 18, 2021 (estimate)</p> <p>2022: December 15, 2020 – March 17, 2022 (estimate)</p>
Crop Protection and Pest Management Program (CPPM)	7 U.S.C. 7626	<p>The purpose of the CPPM program is to address high priority issues related to pests including insects, nematodes, pathogens, weeds, and other</p>	\$20,000	\$20,000	<p>2021: December 16, 2020 to March 15, 2021</p>

		<p>pests and their management using integrated pest management (IPM) approaches at the state, regional and national levels. The CPPM program provides support for this activity through three linked program areas: the Applied Research and Development Program (ARDP) area, the Extension Implementation Program (EIP) area, and the Regional Coordination Program (RCP) area that emphasizes research and development for discovery of IPM knowledge; extension activities for IPM adoption and implementation; and enhanced coordination, collaboration and communications among related CPPM programs and awardees. The FY 2021 RFA will support competitive ARDP and EIP, and continuation RCP projects.</p> <p>The FY 2022 RFAs will focus on competitive ARDP and RCP, and continuation EIP projects.</p>			2022: December 16, 2021 to March 15, 2022
Specialty Crop Research Initiative	7 U.S.C. 7632	The FY 2021 and FY 2022 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 is also required that applications address one of the five legislatively mandated focus areas.	\$75,440	\$80,000	2021: November 18, 2022 2022: October 15, 2021
Emergency Citrus Disease Research and Extension Program (ECDRE) Trust Fund	7 U.S.C. 7632(j)	7 U.S.C. 7632(j) authorizes the ECDRE Trust Fund to provide \$25,000,000 per year in mandatory funding for the program. The ECDRE program solicits proposals to develop effective tactics and strategies to control Huanglongbing (HLB) and its disease complex for financially sustainable citrus growth in the United States. All projects	\$23,575	\$25,000	2021: Request for Pre-applications (RFPA): January 29, 2021 RPA: January 28, 2022

		<p>funded by the ECDRE program will incorporate collaborative approaches that utilize available knowledge to develop new solutions that can be deployed by growers to manage and prevent HLB infection in the near term. The FY 2021 and 2022 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 they 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, assess the progress, and identify priority needs for future research and extension efforts.</p>			<p>2022: RFPA: January 28, 2022</p> <p>RPA: May 25, 2022</p>
<p>Beginning Farmer and Rancher Development Program (BFRDP)</p> <p>Mandatory Funds</p>	<p>Section 12301 of the 2018 Farm Bill; 7 U.S.C. 2279(d)</p>	<p>The FY 2021 and 2022 BFRDP RFAs will continue to focus on education and training through standard grants and educational enhancement grants with the reauthorized and new topics. At least five percent of funds will focus on training for Veteran Beginning Farmers and Ranchers (BFRs), and at least five percent of funds will focus on training for limited resource BFRs, socially disadvantaged BFRs, and farmworkers desiring to become BFRs. Criteria for consideration of waiving matching fund</p>	\$16,503	\$20,000	<p>2021: December 15, 2020 – March 25, 2021</p> <p>2022: December 15, 2021 – March 24, 2022</p>

Supplemental	Section 754 (Division N) of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$37.5 million for additional coronavirus response and relief	requirements will be included in the RFAs.	\$37,500	\$0	
Discretionary Funding	7 U.S.C. 2279(d); Section 756 of the FY 2021 Omnibus and COVID Relief and Response Act	The FY 2021 RFA will address the same goals as described above for the BFRDP. The FY 2022 President’s budget does not include discretionary funds for this program.	\$2,500	\$0	2021: May 2021
Organic Agriculture Research and Extension Initiative (OREI)	7 U.S.C. 5925b	The FY 2021 and FY 2022 RFAs will focus on solving critical organic agricultural issues, priorities, or problems through the integration of research, education and extension activities in order to enhance the ability of producers and processors who have already adopted organic standards to grow and market high quality organic agricultural products. Priority concerns include biological, physical, and social sciences, including economics. The focus will be on the eight legislatively-defined goals: (1) Facilitating the development and improvement of organic agriculture production, breeding, and processing methods; (2) Evaluating the potential economic benefits of organic agricultural production and methods to producers, processors, and rural communities; (3) Exploring international trade opportunities for organically grown and processed agricultural commodities; (4) Determining desirable traits for	\$23,575	\$30,000	2021: October 29, 2020 – January 14, 2021 2022: October 29, 2020 – January 13, 2022

		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, marketing, food safety, socioeconomic conditions, and farm business management; (7) Examining optimal conservation, soil health, and environmental outcomes relating to organically produced agricultural product; and (8) Developing new and improved seed varieties that are particularly suited for organic agriculture.			
Scholarships for Students at 1890 Institutions Mandatory Funds	7 U.S.C. 3222a	The 2018 Farm Bill provided \$40 million to support the program, with up to \$10 million per year to be used for scholarships. Through the FY 2021 and 2022 RFAs, the program will provide scholarships to outstanding students at 1890 institutions to pursue and complete baccalaureate degrees in the food and agriculture sciences and related fields that would lead to a highly skilled food and agricultural systems workforce.	(\$10,000 from carryover funds, 2020)	(\$10,000 from carryover funds 2021)	2021: October 15, 2020 – January 28, 2021 2022: October 2021 – January 28, 2022
Scholarships for Students at 1890 Institutions Discretionary Funds	7 U.S.C. 3222a	Through the 2021 and 2022 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.	\$10,000	\$10,000	2021: May 2021 2022: May 2022
Gus Schumacher	7 U.S.C. 7517	GusNIP brings together stakeholders from various parts	\$45,264	\$53,000	2021: December 15,

Nutrition Incentive Program (GusNIP)	Section 755 (Division N) of the Consolidated Appropriations Act, 2021 (P.L. 116-260) provided \$75 million for additional coronavirus response and relief	of the food and healthcare systems to foster understanding of how they might improve the health and nutrition status of participating households. Funding for FY 2021 and FY 2022 will be used to: 1) support and evaluate projects intended to increase the purchase of fruits and vegetables by low-income consumers participating in the Supplemental Nutrition Assistance Program (SNAP) by providing incentives at the point of purchase; 2) demonstrate and evaluate the improvement of dietary health through increased consumption of fruits and vegetables, reduced individual and household food insecurity, and 3) reduced training and technical assistance to applicants and grantees, facilitate growth in states with low participation as well as collect and aggregate core data from eligible entities through a central system to capture program success and identify best practices and areas to improve future efforts, on a broad scale. The GusNIP grant program Nutrition Incentive Program Training, Technical Assistance, Evaluation and Information Centers (NTAE) cooperative agreement applicants will be invited again in FY 2022, when the current cooperative agreement ends.	\$75,000	\$0	2020 2022: December 15, 2021
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