United States Department of Agriculture

National Institute of Food and Agriculture

FY 2014

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE FY2014 PRESIDENT'S BUDGET PROPOSAL

WWW.NIFA.USDA.GOV | INVESTING IN SCIENCE | SECURING OUR FUTURE

NIFA FY2014 PRESIDENT'S BUDGET PROPOSAL

THE NATIONAL INSTITUTE OF FOOD AND AGRICULTURE (NIFA) integrates research, education, and extension to ensure that groundbreaking discoveries in the food, agricultural, natural resource, and human sciences go beyond the laboratory and make their way into the classroom and to people who can put the knowledge into practice and improve their lives. **RESEARCH** enables discovery of knowledge to provide answers to complex problems of national and global importance. **EDUCATION** strengthens schools and universities to educate and train the next generation of scientists, educators, producers, and citizens, and prepare the workforce for a thriving economy. **EXTENSION** translates the knowledge gained through research and education into innovations that can provide solutions to problems people face.

NIFA works with the best and brightest scientists in the United States and around the world to find innovative solutions to local and global problems. Collaboration with historically black colleges and universities, Hispanic-serving institutions, and tribal colleges ensures the benefits of NIFA's resources extend to all Americans. With a timely, integrated approach and collaboration with other federal science agencies, NIFA also serves as a vital contributor to science policy decision-making.

NIFA continues to work across the federal science enterprise as it strives to make a difference in solving emerging problems facing the nation's food, fuel, and fiber production system.

In Fiscal Year 2014, NIFA seeks to lead food and agricultural sciences to create a better future for the nation and the world. NIFA will focus resources on supporting programs that provide foundational knowledge, as well as on programs that will create substantial impacts by addressing critical issues facing the long-term viability of agriculture. We will achieve this through program leadership to identify, develop, and manage programs to sponsor university-based and other institutional research, education, and extension; and through fair, effective, and efficient administration of Federal assistance awards and agreements.

THE AGENCY'S PRIMARY BUDGET INITIATIVES WILL EMPHASIZE:

- targeted efforts that focus on solutions to high priority challenges including production agriculture; adapting crop and livestock agriculture to climate variability; addressing critical water and water resources problems; reducing childhood obesity; improving food safety and nutrition; and ensuring sustainable agriculture that provides for food security and meets goals for biofuels, while strengthening rural communities;
- support for a new Food, Agricultural, Natural Resources, and Human Sciences Education and Literacy Initiative within AFRI to enhance the science, agriculture, food, and environmental education and literacy in schools and colleges across America;
- continued support of foundational science that includes the Critical Agricultural >>

Research and Extension Competition, which focuses on short-term issues important to agricultural production through Agriculture and Food Research Initiative competitive grants;

- linkages among producers, scientific discovery, and application of sustainable practices, through the Sustainable Agriculture Research and Education Program;
- consolidation of integrated pest management programs into a single integrated program called Crop Protection/ Pest Management;
- outreach activities through the Cooperative Extension System; and
- support for capacity building and other minority-serving programs.

FY2014 BUDGET HIGHLIGHTS

AGRICULTURE AND FOOD RESEARCH INITIATIVE (AFRI)

Funding will support high-priority issues:

AGRICULTURAL AND FOOD PRODUCTION AND SECURITY

Programs in this priority area will address pressing issues in food production that contribute to national and global food security while helping America promote sustainable agricultural production and biotechnology exports. Funding will continue to improve the understanding of existing genomic information and classical breeding to develop new and improved animal breeds and crop cultivars for increased food production and quality. Efforts will target activities that address the problems of U.S. agriculture, create mutual benefits domestically and abroad, and allow new opportunities for interdepartmental initiatives as appropriate. It also will address detection, diagnostics, prevention, and potential impacts of new and emerging weeds, diseases, and arthropods in crop and livestock production systems.

AGRICULTURAL PRODUCTION AND CLIMATE VARIABILITY

Funding supports activities on adaptive management and mitigation potentials of agricultural and natural resource systems to address climate variables such as precipitation and temperature, and their impacts as a result of violent weather extremes, floods, or persistent droughts. Efforts will help farmers, ranchers, forest owners, and rural communities adapt to climate variation, reduce greenhouse gas emission, and increase carbon sequestration. Specifically, the program will assist in identifying new management approaches and business practices that should be made so that agriculture production can be sustainable and profitable in the face of variable climates. Funds also will support the integration of climate variability within a new challenge area that focuses on water.

WATER AND WATER RESOURCES

Projects will focus on solutions for water management that link food, water, climate change, energy, and environmental issues. Funding will develop management practices, technologies, and tools for farmers, ranchers, forest owners, and citizens to improve water resource quantity and quality. Program topic areas include: ensuring agricultural water security focused on surface weather and groundwater needed to produce a wide array of agricultural goods and services; improving nutrient management in agricultural landscapes focused on nitrogen and phosphorous; and reducing impacts of chemicals of emerging concern and the presence and movement of environmental pathogens at the landscape.

SUSTAINABLE BIOENERGY

Funding will support regional projects that link research for sustainable biomass production, logistics of handling feedstocks for biofuels, and education programs to create the needed

continued next page >>

>> continued from previous page

skilled workforce. Ongoing targeted research will focus on enhanced value co-products; crop protection; land-use changes resulting from feedstock production and conversion; implications of the development of bioenergy delivery systems on water; and identification of socioeconomic impacts of biofuels in rural communities in order to enhance sustainable rural economies.

NUTRITION AND HEALTH

Projects will focus on children and adolescents ages 2-19, to generate new knowledge of the behavioral social, cultural, and/or environmental factors, including the food environment, that influence childhood obesity. Data will be used to develop and implement effective family, peer, community, and/or school-based interventions to prevent obesity and promote healthy behaviors in children and adolescents. The program will support work to further develop and extend approaches to prevent childhood obesity and obesity-related diseases; improve knowledge with emphasis on health literacy; identify individual patterns of behavior in children and adolescents and their responses to others, the environment and policy; and address transdisciplinary education in nutrition. Also projects will study the function, efficacy, and human requirements of nutrients, on which nutritional scientists have limited data. Data will be generated to obtain baseline information so to better inform applied research and integrated projects.

FOOD SAFETY

Funds will be used to improve the safety of the U.S. food supply through new and improved rapid detection methods, pre- and post-harvest epidemiological studies, and improved food harvesting and processing technologies. NIFA will fund critical environmental and ecological research to improve our understanding of disease-causing microorganisms, antibiotic resistance, food allergies, and naturally occurring contaminants in meats, poultry, seafood, and fresh fruits and vegetables. Funding will address efforts to minimize antibiotic resistance transmission through the food chain, and microbial food safety hazards of fresh and fresh-cut fruits and vegetables. Funding will support work to advance investigator-driven integrated research to solve complex food safety challenges in plant and animal food systems; amplify applied research to advance education and outreach activities to food safety audiences; expand and improve mitigation strategies for reducing antimicrobial resistance, safety of fresh and fresh-cut fruits and vegetables, and processing technologies for enhancing food safety; and integrated nutrition and food safety efforts to create a healthier food supply.

FOUNDATIONAL SCIENCE

Funding will allow substantive research investments in Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Renewable Energy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. In response to stakeholder input, funds are proposed for the Critical Agricultural Research and Extension (CARE) Competition. The AFRI-CARE Competition will prioritize funding for high quality plant and animal production and protection projects. Projects will focus on animal production, crop production, crop and animal product quality, and/or crop and livestock health management. The AFRI-CARE program will emphasize achieving results that can be applied by the producer as quickly as possible following project completion.

FOOD, AGRICULTURAL, NATURAL RESOURCES, AND HUMAN SCIENCES EDUCATION AND LITERACY INITIATIVE

This new initiative will develop agricultural-related science learning and engagement activities focused on the K-20 academic pipeline. It also will support agricultural sciences-related workforce careers, through student scholarships, fellowships, and traineeships.

INTERAGENCY COLLABORATIONS

NIFA supports research, education, and extension that focus on meeting society's grand challenges. One of the ways NIFA achieves this is by leveraging resources and expertise through partnering with other Federal agencies, including the National Science Foundation, Department of Energy, and National Institutes of Health.

SUSTAINABLE AGRICULTURE

NIFA proposes to consolidate funding for the "Sustainable Agriculture Research and Education Program" and "Sustainable Agriculture" into a single program called Sustainable Agriculture Research and Education Program administered under Research and Education Activities.

The program will support systems research and farmers and ranchers projects that address crop and livestock production and market-

ing, stewardship of soil and other natural resources, economics and quality of life. Funds will develop 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.

CROP PROTECTION/ PEST MANAGEMENT

In response to stakeholder concerns, NIFA proposes the Minor Crop Pest Management Program will be administered as a stand-alone program. NIFA also proposes to consolidate funding for "Expert Integrated Pest Management (IPM) Decision Support System," "IPM & Biological Control," "Pest Management Alternatives," Smith-Lever 3(d) "Pest Management," and "Regional Pest Management Centers" into a single program called Crop Protection/Pest Management administered under Integrated Activities. This consolidation will enhance NIFA's ability to support the synergistic research, education, and extension activities needed to ensure global food security.

Funded activities will be for IPM projects that respond to pest management challenges with coordinated state-based, regional and national research, education, and extension programs, and promote further development and use of IPM approaches.

The program will foster regional and national team building efforts, communication networks, and enhanced stakeholder participation. The program will focus on plant protection tactics and tools; diversified IPM systems; enhancing agricultural biosecurity; IPM for a sustainable communities; and development of the next generation of IPM scientists.

HISPANIC-SERVING AGRICULTURAL COLLEGES AND UNIVERSITIES (HSACU) ENDOWMENT FUND

The Hispanic/Latino community is the fastest growing sector of the American population. This investment will assist HSACUs compete effectively for NIFA competitive grants. Support for this endowment fund for HSACUs will help in the development of a skilled and marketable student population for employment in the food and agriculture sector.

EXTENSION

Funding is proposed for Smith-Lever 3(d) for the New Technologies for Agricultural Extension Program to support a national web-based information and education delivery system for the Cooperative Extension System (CES), and the Children, Youth, and Families at Risk Program to improve the quality and quantity of comprehensive community-based programs for at-risk children, youth, and families supported by the CES. NIFA also proposes funding to assist forest and range landowners and managers in making resource management decisions under the Renewable Resources Extension Act Program.

OTHER PROGRAMS

Proposed increases in Federal administration will support activities for the information technology modernization of NIFA's grant applications systems and processes, and extension activities for risk management education.

NIFA will continue funding for most other programs, including formula funded and other minority-serving programs, in order to serve the nation's needs through exemplary research, education, and extension that address many challenges facing agriculture, the environment, and nutrition. From agricultural production, nutrition and food safety to energy independence and the sustainability of our natural resources, NIFA's investment in science helps to secure America's future.

TRANSFER OF STEM PROGRAMS

The budget includes a proposal to transfer funding for Science, Technology, Engineering and Mathematics (STEM) programs conducted by NIFA to the National Science Foundation (NSF) and Department of Education (Education) as part of a Presidential Initiative to combine Federal STEM programs into a single STEM initiative. Programs to be transferred include the Research and Education Activities – Institution Challenge, Multicultural Scholars, and Graduate Fellowship Grants; and Secondary/2-year Post Secondary Education Program. Also transferred is funding for Extension Activities – Women and Minorities in STEM Fields and Agriculture in the Classroom.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE ($000)

PROGRAMS	FY 2013* ANNUALIZED CONTINUING RESOLUTION	FY 2014 PRESIDENT'S BUDGET
DISCRETIONARY FUNDING		
RESEARCH AND EDUCATION ACTIVITIES:		
Agriculture and Food Research Initiative	$266,089	$383,376
FORMULA PROGRAMS:		
Hatch Act	237,780	236,334
McIntire-Stennis Cooperative Forestry	33,136	32,934
Evans-Allen Program	51,209	50,898
Animal Health and Disease, Section 1433	4,024	0
SPECIAL RESEARCH GRANTS:		
Expert IPM Decision Support System	154	a/
Integrated Pest Management & Biological Control	2,376	a/
Minor Crop Pest Management, IR-4	11,986	11,913
Pest Management Alternatives	1,411	a/
Global Change, UV-B Monitoring	1,308	1,405
Other Grants b/	2,716	0
OTHER RESEARCH:		
Critical Agricultural Materials	1,088	0
Aquaculture Centers	3,944	3,920
Sustainable Agriculture Research and Education Program	14,560	22,667
Supplemental and Alternative Crops	830	0
1994 Research Grants	1,812	1,801
Joe Skeen Institute for Rangeland Restoration	967	0
Federal Administration (Direct Appropriation)	10,564	14,368
Farm Business Management and Benchmarking Program	1,459	0
Sun Grant Program	2,213	0
Policy Research	4,024	0
Capacity Building for Non-Land Grant Colleges of Agriculture	4,528	0
HIGHER EDUCATION:		
Institution Challenge, Multicultural Scholars and Graduate Fellowship Grants c/	9,055	0
1890 Institution Capacity Building Grants	19,454	19,336
Hispanic Serving Institutions Education Grants Program	9,275	9,219
Tribal Colleges Education Equity Grants Program	3,355	3,335
Interest (Estimated) Earned on Tribal Colleges Endowment Fund	5,206	5,337
Secondary Education/2-Year Post Secondary c/	906	0
Alaska Native-serving and Native Hawaiian-serving Institutions	3,214	3,194
Veterinary Medical Services Act	4,819	4,790
Grants for Insular Areas	0	1,650
Resident Instruction Grants for Insular Areas	906	d/
Distance Education Grants for Insular Areas	755	d/
Total, Research and Education Activities e/	715,123	806,477
INTEGRATED ACTIVITIES:		
SECTION 406 LEGISLATIVE AUTHORITY:		
Water Quality	4,528	0
Regional Pest Management Centers	4,024	a/
Methyl Bromide Transition Program	2,008	0
Organic Transition Program	4,024	4,000
Crop Protection/Pest Management	0	17,143
OTHER LEGISLATIVE AUTHORITIES:		
Regional Rural Development Centers	1,004	998
Food and Agriculture Defense Initiative	6,025	5,988
Total, Integrated Activities	21,613	28,129

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE ($000)

PROGRAMS	FY 2013* ANNUALIZED CONTINUING RESOLUTION	FY 2014 PRESIDENT'S BUDGET
EXTENSION ACTIVITIES:		
FORMULA PROGRAMS:		
Smith-Lever Formula 3(b)&(c)	$295,799	$294,000
1890 Institutions	42,853	42,592
SMITH-LEVER 3(D) PROGRAMS:		
Expanded Food and Nutrition Education Program	68,350	67,934
Pest Management	9,979	a/
Farm Safety and Youth Farm Safety Education and Certification	4,638	4,610
New Technologies for Agricultural Extension	1,559	1,750
Children, Youth, and Families at Risk	7,646	8,395
Sustainable Agriculture	4,725	f/
Federally-Recognized Tribes Extension Program	3,058	3,039
OTHER EXTENSION PROGRAMS:		
Extension Services at 1994 Institutions	4,338	4,312
Renewable Resources Extension Act	3,723	4,060
Rural Health and Safety	1,509	0
1890 Facilities (Section 1447)	19,851	19,730
Food Animal Residue Avoidance Database Program (FARAD)	1,006	0
Grants for Youth Serving Institutions	755	0
Women and Minorities in Science, Technology, Engineering and Mathematics (STEM) Fields c/	402	0
Federal Administration g/ & h/	7,900	8,615
Total, Extension Activities	478,091	459,037
TOTAL, DISCRETIONARY FUNDING e/	**1,214,827**	**1,293,643**

MANDATORY AND ENDOWMENT FUNDING

Hispanic-Serving Agriculture Colleges and Universities Endowment Fund	$0	$10,000
Tribal Colleges Endowment Fund	11,880	11,880
Organic Agriculture Research and Extension Initiative	0	i/
Beginning Farmers and Ranchers Program	0	i/
Biomass Research and Development Initiative (BRDI) j/	0	26,000
Specialty Crop Research Initiative	0	i/
Biodiesel Fuel Education Program k/	0	i/
Agriculture Risk Management Education Program k/	5,000	5,000
Community Food Projects Competitive Grants Program k/	5,000	5,000
TOTAL, MANDATORY AND ENDOWMENT FUNDING	**21,880**	**57,880**
TOTAL, DISCRETIONARY AND MANDATORY FUNDING	**1,236,707**	**1,351,523**

*NOTE: *Based on annualized amounts provided by the Continuing Appropriations Resolution, 2013, P.L. 112-175.*
a/ In FY 2014, program is consolidated under Integrated Activities, Crop Protection/Pest Management Program.
b/ Funding is for Potato Research and Forest Products Research. Funding in FY 2013 – $1,358,000 each.
c/ In FY 2014, program is moved to the National Science Foundation and Department of Education.
d/ In FY 2014, program is consolidated under Research & Education Activities, Grants for Insular Areas Program.
e/ Estimated interest on Tribal College Endowment Fund is included in the total.
f/ In FY 2014, program is consolidated under Research & Education Activities, Sustainable Agriculture Research and Education Program.
g/ In FY 2014, Agriculture in the Classroom is moved to the National Science Foundation and Department of Education.
h/ In FY 2014, $500,000 is for Risk Management Education.
i/ Funding for this Farm Bill mandatory program expired at the end of September 2012. Program is subject to reauthorization in 2014.
j/ In FY 2014, budget includes an estimate of $26,000,000 for BRDI for the Commodity Credit Corporation under the budget proposal.
k/ Mandatory program delegated to another USDA agency but administered by NIFA.

INVESTING IN SCIENCE | SECURING OUR FUTURE | WWW.NIFA.USDA.GOV

USDA is an equal opportunity provider and employer | Printed April 2013