



Educating the Next Generation of Agricultural Scientists

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Introduction

The National Institute of Food and Agriculture (NIFA) invests in and advances agricultural research, education, and extension to solve societal challenges. NIFA accomplishes this by ensuring the discoveries we support go beyond the laboratory and make their way into the classroom. The agency's educational programs are led by the Division of Community and Education (DOCE).

Grant programs in DOCE fall under three main goals - to enhance:

1) Workforce Development

Supports the development of the agricultural workforce through fellowship opportunities for undergraduate, graduate and postdoctoral students and professional development opportunities for secondary school teachers.

2) Learning and Engagement

Emphasizes the critical need to provide leading-edge training and learning opportunities for students. These investments include support for experiential learning opportunities, teacher training, curriculum development and development of methods to improve the recruitment and retention of students.

3) Capacity Building

Capacity building at Minority Serving Institutions and institutions outside of the Land Grant System to facilitate access to higher education, supporting research, teaching and extension activities to benefit students and communities served by these institutions.

Table. 1 FY 2015 DOCE Program Names and Appropriated Amounts with a focus on Graduate Education

Grant Area	Program Name	Appropriation
Learning and Engagement	Higher Education Challenge (HEC)	\$4.77 million
	National Needs Fellowship (NNF)	\$3.24 million
Workforce Development	Women and Minorities in STEM Fields (WAMS)	\$0.4 million
	NIFA Fellows Pre and Postdoctoral Program	\$11.2 million
Capacity Building for Minority Serving Institutions	Hispanic Serving Institution (HSI) Education Grants Program	\$9.2 million
	1890s Programs	\$18.3 million
	1994 Tribal Programs	\$17.5 million
	Alaska Natives and Native Hawaiian Serving Education Grants (ANNH)	\$3.2 million
	Distance Education Program (DEG)	\$0.8 million
	Non-Land Grant Colleges of Agriculture (NLGCA)	\$4.5 million
	Resident Instruction Grants Program for Institutions of Higher Education in Insular Areas (RIIA)	\$1.2 million

Table 2. FY 2015 NIFA Fellows - Awards by Agriculture Food Research Initiative (AFRI) Foundational/Challenge Area

Ag. Systems & Technology	3.2%
Agriculture Economics	3.2%
Animal Health and Production and Animal Products	21.0%
Food Safety, Nutrition, and Health	12.9%
Plant Health and Production and Plant Products	41.9%
Bioenergy, Natural Resources, and Environment	17.7%

Sample Projects

NIFA Fellows Pre and Postdoctoral Program

The examples listed below highlight the diversity of projects supported through the NIFA Fellows program.

- Genetic and microbial influences on the development of obesity in children
- Ecological Epidemiology of *Campylobacter jejuni* transmission: linking wild birds, poultry, and food safety
- Population Persistence at an Invasion Front: Climatic Limitations on the Spread of the Gypsy Moth
- Soil-Biochar Interactions and their Impact on Greenhouse Gas Emissions from Diverse Agroecosystems

The Higher Education Challenge (HEC)

Healthy Animals Safe Food: A Comprehensive Web-Based Educational Tool to Enhance Food Safety Training of Veterinary Medical Students.

This project's goal was to improve pre- and post-harvest food safety knowledge, relevant Spanish language abilities, mental motivation and self-efficacy regarding food safety for these students, maximizing the education resources available and building partnerships to this end.

National Needs Graduate Fellowship (NNF)

Multi-Disciplinary Doctoral Training in Human Nutrition and Childhood Obesity. NNF provided funding to support a multi-disciplinary doctoral training program in human nutrition and childhood obesity at the University of Arizona. This program provided courses and experiential learning resulting in core competencies, through team science, laboratory rotations, grant and manuscript writing, scientific presentations, dissertation research, online and face-to-face teaching, and an outreach project in public education.

For more information on funding opportunities, visit the NIFA website at <https://nifa.usda.gov/>