



United States Department of Agriculture National Institute of Food and Agriculture



MARCH 2017

NIFA invests in and advances agricultural research, education, and extension and promotes transformative discoveries that solve societal challenges. | [www.nifa.usda.gov](http://www.nifa.usda.gov)

## Fostering Positive Youth Development

Positive youth development is an intentional approach to promote positive outcomes for young people through family and community youth engagement for the benefit of society. Positive youth development focuses on building relationships while delivering learning content, ultimately giving youth the skillsets they need to navigate socially: respect, teamwork, and self care. NIFA prioritizes positive youth development programming to ensure the future employability of America's children and support our nation's economy.

### Employability Skills

**THE POSITIVE YOUTH DEVELOPMENT FORMULA**

POSITIVE RELATIONSHIPS  
Effective Relationships

POSITIVE EXPERIENCES  
Applied Knowledge

POSITIVE ENVIRONMENTS  
Workplace Skills

POSITIVE RISK-TAKING  
Navigating Challenges

### Filling the Gap

**45 PERCENT** OF ALL U.S. EMPLOYERS REPORTED DIFFICULTIES IN FILLING JOBS IN 2016

**40%** Projected proportion of unfilled jobs in the food and agricultural system

**EMPLOYABILITY ASSETS APPLICANTS LACK**

- Professionalism & Ethics
- Experience
- Critical Thinking
- Problem Solving
- Digital Competency
- Technical Competencies
- Leadership
- Communication
- Ability to work in diverse groups

**HELP WANTED**

### A Century of Success

NIFA IS COMMITTED TO STRENGTHENING THE AGRICULTURAL WORKFORCE.

**The 4-H Youth Development Program** serves as a model program for the practice of positive youth development. NIFA and its predecessor agencies have more than a 100-year history of providing federal leadership for the National 4-H Program in partnership with the land-grant university-based Cooperative Extension System. The National 4-H Council provides additional private support.

**“As a member of 4-H...most importantly for me, a very shy kid, was learning that I was able to do public speaking. 4-H helped me to overcome my own hurdles to become a team player and a leader.”**

PEGGY WHITSON | Iowa 4-H Alum  
Commander of the International Space Station

**6 OUT OF 10** The ratio of youth enrolled in 4-H who are more likely to report healthier habits and participate in afterschool science, engineering, or computer technology programs.

4-H is the Youth Development Program of the Cooperative Extension System



Extension professionals are integrated within more than 3,000 counties and county equivalents across all U.S. states, districts, and territories. These professionals translate science into opportunities to help improve people's lives.

**SOURCES:** 2016-2017 Talent Shortage Survey. [www.manpowergroup.com](http://www.manpowergroup.com) | 4-H and NASA: Empowering today's True Leaders. [www.youtube.com/watch?v=dRp5dtRA5k](http://www.youtube.com/watch?v=dRp5dtRA5k) | Employment Opportunities for College Graduates in Food, Agriculture, Renewable Natural Resources, and the Environment - United States, 2015-2020. [www.purdue.edu/usda/employment](http://www.purdue.edu/usda/employment) | Employability Skills Framework. [cte.ed.gov/employabilityskills/index.php/framework/](http://cte.ed.gov/employabilityskills/index.php/framework/) The Positive Development of Youth: Report of the Findings from the First Seven Years of the 4-H Study of Positive Youth Development. <https://ase.tufts.edu/iaryd/researchPositive4HPublications.htm>.

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## Biosecurity to Protect America's Food and Agricultural System

Tactical science programs protect the integrity, reliability, sustainability, and profitability of the U.S. food and agricultural system against threats from pests, diseases, contaminants, and disasters. It is necessary to mitigate the threats posed by these foreign and emerging constraints to our nation's economy and food supply. NIFA is committed to supporting programs that provide readily available, science-based tactics to help prevent, prepare for, detect, respond to, and recover from known and emerging threats.

### Ag Grows the Economy

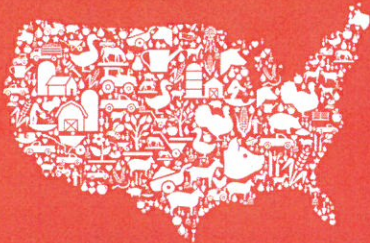


**\$835 B**

The amount of money the agriculture industry contributed to the U.S. GDP in 2014.

**17M+**

Jobs filled by the agriculture industry in 2014.



**EXPORTS GENERATE A SURPLUS IN U.S. AGRICULTURAL TRADE**

### Examples of Threats to our Food Supply



#### PORCINE EPIDEMIC DIARRHEA VIRUS

\$900M to \$1.8B annual estimated cost to the pork industry



#### CITRUS GREENING DISEASE

\$4.5B cost to the citrus industry from 2006-2010



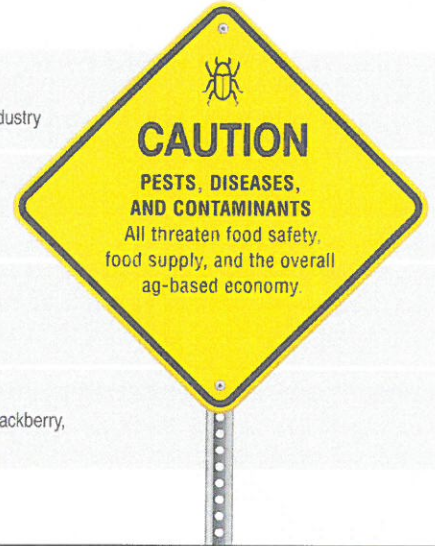
#### HIGHLY PATHOGENIC AVIAN INFLUENZA

\$3.3B cost to the poultry industry in 2015



#### SPOTTED WING DROSOPHILA

Up to \$718M in costs due to strawberry, raspberry, blackberry, and blueberry losses annually



### Tactical Science Programs

#### Programs that Enable America to Act with Immediacy in the Face of Disaster

Crop Protection/Pest Management Program (CPPM) ■■■■

Extension Disaster Education Network (EDEN) ■■■■

Food Animal Residue Analysis Database (FARAD) ■■■■

National Animal Health Laboratory Network (NAHLN) ■■■■

National Plant Diagnostic Network (NPDN) ■■■■

Minor Crop Pest Management Program (IR-4) ■■■■

Minor Use Animal Drug Program (NRSP-7) ■■■■

- Prevents
- Prepares
- Detects
- Responds
- Recovers

### RECENT EXAMPLES OF SCIENCE-BASED TACTICS TO PROTECT OUR FOOD SUPPLY

1

Development and deployment of the biopesticide HopGuard II to manage Varroa mite to protect honey bees

2

Integrated pest management methods have increased the safety of pest management strategies while protecting our food supply

3

Development of novel approaches to manage livestock diseases and thus protect availability of antimicrobials for public health

NIFAs Partnership with the Land-grant University and Cooperative Extension System: Boots on the ground translating research to protect our food supply

Congressional funding

Administration of federal funds by NIFA

Land-grant universities use federal plus matching state and local funds to manage extension programs

Extension professionals translate knowledge to meet the unique needs of communities across America

Extension professionals are integrated within more than 3,000 counties and county equivalents across all U.S. states, districts, and territories. These professionals are often the first line of defense in reporting new pest and disease threats and implementing solutions.

**SOURCES:** Ag and Food Sectors and the Economy. [www.ers.usda.gov](http://www.ers.usda.gov). | eFly Working Group. (2015). <http://swd.ces.ncsu.edu/swd-impacts-2014/> | Greene, Joel L. (2015). Update on the Highly-Pathogenic Avian Influenza Outbreak of 2014-2015. *Congressional Research Service*. | Hodges, Alan W. and Spreen, Thomas H. (2012). Economic Impacts of Citrus Greening (HLB) in Florida, 2006/07 – 2010/11. *University of Florida Institute of Food and Agricultural Sciences*. <http://utdc.ufl.edu/IR00005615/00001> | Paarlberg, Philip L. (2014). Updated Estimated Economic Welfare Impacts of Porcine Epidemic Diarrhea Virus (PEDv). Purdue University, Department of Agricultural Economics, Working Paper #14-4. | U.S. Agricultural Trade. [www.ers.usda.gov/topics/international-markets-trade/us-agricultural-trade/](http://www.ers.usda.gov/topics/international-markets-trade/us-agricultural-trade/)

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## Nutrition Education Programming in America

NIFA is committed to improving health and reducing hunger and poverty in America through nutrition education programming. Low-income families develop healthy habits in eating, physical activity, food handling, and food storage through peer educator-led training using credible, research-based nutrition information. NIFA and its predecessor agencies have provided nearly 50 years of federal leadership in nutrition education programming through the Expanded Food and Nutrition Education Program (EFNEP). We need to ensure that such programming is commensurate with demographic, social, and technological change.

### EFNEP by the numbers

**33M**

The total number of participants reached since inception

**\$67.9M**

The funding level in 2016

**1,600+**

The number of peer educators trained annually

### EFNEP Success



More than 95% of graduates improve diets and consume an additional cup of fruits and vegetables daily



\$9.52 benefit to society for every dollar invested in EFNEP\*



Nearly 2 in 5 graduates increase their physical activity by at least 30 minutes daily

By training and supervising peer educators, EFNEP increases the employability of individuals and self-reliance of families and communities.

### The 6 Keys to Success

#### Characteristics of Successful Nutrition Education Programming

- 1 Interactive, hands-on learning adapted to the context of each participant's life
- 2 Evidence-based approaches to extend knowledge and improve diets and food-related behaviors
- 3 Complementing peer educator-led training with online technologies to accommodate changes in how individuals learn and access information
- 4 Strategic local partnerships that integrate programming into the community
- 5 State autonomy to target programming in areas of greatest need
- 6 Ongoing training and supervision of peer educators who implement programming in their local communities

### Graduate Testimonial

"I was never taught how to cook, so I [would] just buy foods that are ready to eat or heat...[now my family cooks] healthy meals together, we eat together, we play together, we never run out of food, and we spend about half as much on our food as we did before participating in your program."

EFNEP Graduate from Maine

### Did You Know?



Alabama led the way in nutrition education programming via a grassroots, five year pilot program beginning in 1964. In 1969, this pilot expanded to become the national EFNEP program.

EFNEP is a program conducted within the Cooperative Extension System.

Congressional funding

Administration of federal funds by NIFA

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\*FOOTNOTE: This statistic was obtained by averaging the findings across the following series of studies, which collectively show the benefit to be \$9.52 (range \$8.34 to \$10.64).

SOURCES: Dollahite, J., Kenkel, D., & Thompson, C.S. (2008). An economic evaluation of the Expanded Food and Nutrition Education Program. *Journal of Nutrition Education and Behavior*, 40(3), 134-143. | Joy, , Pradhan, V., & Goldman, G.E. (2006). Cost-benefit analysis conducted for nutrition education in California. *California Agriculture* 60(4):185-191. | Lambur, M., Rajgopal, R., & Lewis, E. (1999) Applying cost-benefit analysis to nutrition education programs: Focus on the Virginia Expanded Food and Nutrition Education programs: *Virginia Cooperative Extension*. Blacksburg, VA.: Virginia Tech.





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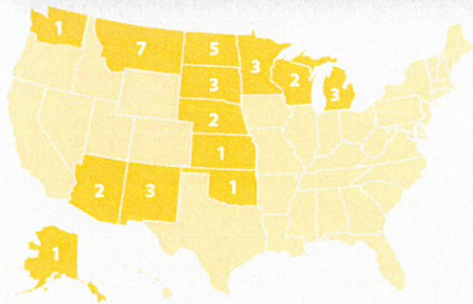
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## Supporting the Tribal Land-Grant Institutions

NIFA commits to catalyzing transformative applied research, education, and extension at 1994 land-grant institutions to address critical challenges in Indian communities across the United States. The 1994 land-grant institutions have the unique ability to address issues affecting lives of American Indian students and communities. These institutions deliver place-based knowledge that is rooted in the histories, environments, cultures, and economies of their respective communities. They are essential to affecting local to regional change as fully engaged partners within the land-grant university system.

### What are the "1994s"?

34 COLLEGES AND UNIVERSITIES CONFERRED FEDERAL LAND-GRANT STATUS BEGINNING IN 1994



LOCATED IN 13 STATES

The 1994s are integrated directly into local communities across Indian Country and are able to foster community vitality and increase social mobility for Native Americans. NIFA's partnerships with the 1994s contribute to a broader mission to serve diverse communities across America while developing the next generation of food and agricultural scientists.

### Keys to Success for all Land-Grants

- 1 Strong collaborative relationships to address complex societal problems
- 2 Commensurate administrative support and faculty/staff resources
- 3 Access to the professional resources available through the Cooperative Extension System
- 4 Strong foundation to serve respective communities through consistent sources of funding

### The Power of the 1994s

A Few Stories of 1994s Making a Difference across Indian Country



#### PROMOTING NUTRITION & HEALTHY LIFESTYLES

The United Tribes Technical College in Bismarck, North Dakota, is teaching workshops and distributing educational material to combat diabetes.

11K

The number of Indian households receiving practical information on healthy eating and physical activity



#### PROTECTING TRIBAL FOOD SOVEREIGNTY

Northwest Indian College in Bellingham, Washington, has engaged students in the laboratory to identify the cause of declines in Manila Clam populations and potential management solutions for this important food and revenue source.

60+

Number of students involved in the project through classroom, lab, and outreach activities



#### IMPROVING MATH ACHIEVEMENT SCORES

Diné College in Tsale, Arizona, offers youth outreach programs and workshops for education majors and math teachers to reach the goal of improving students' math achievement scores by 20%.

443

Number of teachers who participated in an annual festival showcasing best practices in STEM teaching and learning

The 1994s Serve Indian Country through Extension

Congressional funding

Administration of federal funds by NIFA

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