

Ed-Facts shares information about new initiatives and activities of the Division of Community and Education (DOCE) and highlight the impacts of past projects. We hope **Ed-Facts** will help to promote the visibility and enhance the impacts of DOCE programs.

News Highlights

- Federal STEM Initiative promotes greater collaboration among federal agencies.
- 1890 CBG Program offers new professional development option.
- Education Portfolio will include output and impacts.
- Outreach – in spite of budget constraints, outreach continues to advance agricultural literacy and capacity building at MSIs.
- Staff changes – a new reality DOCE.

NIFA and the Federal STEM Education Initiative

The President's FY14 budget request includes \$3.1 billion across the federal government for science, technology, engineering, and mathematics (STEM) education, a 6.7 percent increase over FY12 enacted levels. The President's proposal included greater coordination of STEM education to increase participation and opportunities for individuals from groups historically underrepresented in STEM fields. The FY 2014 Agriculture Appropriations Bill has retained funding for mission relevant STEM education programs in food, agriculture, natural resources and human sciences at USDA.

The following five interagency goal teams have been established as a result of federal coordination in STEM:

Goal 1: Improve STEM Education. USDA rep: Jim Kahler (NIFA's youth – science national program leader (NPL))

Goal 2: Increase and Sustain Youth and Public Engagement in STEM. USDA rep: Amy McCune (NIFA's 4-H citizenship NPL)

Goal 3: Enhance STEM Experience of Undergraduate Students. USDA rep: Jill Auburn (NIFA's NPL with undergrad programs expertise)

Goal 4: Better Serve Groups Historically

Underrepresented in STEM Fields. USDA rep: Edwin Lewis (NIFA's minority-serving institution (MSI) NPL)

Goal 5: Design Graduate Education for Tomorrow's STEM Workforce. USDA rep: Ray Ali (NIFA's graduate programs NPL).

The Goal 1 Team is developing strategies for how federal investments will contribute to the 5-Year Federal STEM Education Strategic Plan. It is collecting information that can help inform struggling schools about opportunities and assets from the various agencies that could help them enhance their STEM programs.

The Goal 2 Team had a networking meeting in December to share information about the federal programs that promote youth and public engagement in STEM.

Federal Informal Science Education (ISE) group:

Representatives from various federal agencies have been meeting to share information and resources about their informal/non-formal education programs. The ISE meets quarterly at the offices of the different member agencies (NIFA hosted the summer meeting).

1890 Alert: New RFA Option

This year NIFA will offer a new professional development option for 1890 land-grant university (LGU) faculty through the Capacity Building Grants Program. The funding could support a sabbatical, advanced degrees, or a long-term detail assignment that would build professional capacity. To be considered for funding, the applications must be supported by the applicant's home institution.

The RFA already includes training options for faculty, but this would be a different kind of opportunity.

"It's not for a team to take one class," explained 1890 NPL Edwin Lewis. "We really envision an in-depth experience for one researcher or

professor. We would really like to see them spend time at an 1862 or 1994 LGU or some other institution and return with fresh, new insights on how to strengthen their own college or university as well as build their career."

The primary goal of this initiative is to continue to build capacity at the 1890 LGUs. A secondary goal is to promote collaboration and networking among partner institutions.

The deadline for submitting proposals for FY 2014 is March 19, 2014. For more information email [Edwin Lewis](mailto:Edwin.Lewis@aphis.usda.gov) or call him at 202-690-4565.

Education Portfolio Assessment

Federal mandates oblige NIFA's education programs to undergo a thorough evaluation every 4 years by an external evaluation team. NIFA is committed to assessing the results of its programs, program leadership, and funded activities. Visit the NIFA website for [more information](#).

NIFA's educational leadership directed an all-out initiative to make the 2013-18 portfolio assessment data-driven. The entire DOCE unit worked as a team to develop the plan and the annual report, which provides hard evidence that NIFA's education programs contribute to USDA's Strategic Plan and the Research, Education, and Economics (REE) Mission Area Education Goals. The portfolio's target areas are: workforce development, promoting learning and engagement, and building capacity at minority serving institutions.

The table below demonstrates student impacts from these programs. These impacts are important to the national economy because USDA estimates 54,400 annual [openings in food, agriculture, natural resources, and human science disciplines](#) for individuals with baccalaureate or higher degrees. However, only 29,300 individuals are expected to graduate each year from colleges of agriculture, life sciences, forestry, natural resources, and veterinary medicine to fill these openings. NIFA's education portfolio addresses this gap by recruiting, funding, and training students; supporting faculty and curriculum development; and enhancing agricultural literacy. In addition, the portfolio addresses the wide disparities that continue to persist in educational attainment among the different communities. Future editions of **Ed-Facts** will feature more portfolio data with discussion of their importance to USDA mission areas.

Selected Performance Measures for DOCE Grants	Estimated annual outputs based on 2012 & 2013 projects
Number of students directly supported by grant awards (i.e., scholarships, fellowships, assistantships)	<ul style="list-style-type: none"> * 75 undergraduate students * 25 masters students * 45 doctoral students * 40 postdoctoral students
Number of students who indirectly benefit from the projects (i.e., using the curriculum/instrumentation, enrolled in the program, recruited or retained)	<ul style="list-style-type: none"> * 2,000 using curriculum * 700 enrolled in a new course/program * 500 in experiential learning opportunities * 1,250 using new teaching instrumentation * 625 recruited into programs * 750 retained in programs through student financial support
Number of products developed through grant funds (i.e., curricula, academic programs, recruitment/retention programs, materials, etc.)	<ul style="list-style-type: none"> * 31 publications * 2 patents * 118 student presentations * 70 new course curricula * 13 new academic programs or fields of study * 5 new courses * 35 recruitment/retention programs

We Need a Quote

We need quotes from faculty and students who benefitted from a DOCE grant. The one- or two-sentence quote should clearly explain how a DOCE grant changed your career. Also, include the name of the organization that received the grant, name of the grant program, year of the grant, and provide your current position and affiliation. If you are still a student, also provide a sentence about your career goal. We need this information for our portfolio report and we will include this in future issues of **Ed-Facts** to help demonstrate the impacts of our grants. Please send requested information to [Jill Lee](#).

"While demographic changes are rapidly diminishing the pool of students who begin their education with an interest and familiarity with agriculture, they also provide the opportunity to expand the involvement of the food and agricultural sciences to all factions of our society, an especially valuable opportunity as the technological, practical and cultural environment of local and global agriculture is shifting on an unprecedented scale."

Muquarrab Qureshi
Assistant Director, Institute of Youth, Family, and Community (IYFC), 2013



"Now, this mission to educate our way to a better economy is not just about boosting the number of young adults who have certificates and degrees. It is also about improving the rigor and relevance of agricultural education so that all programs set high academic expectations and help develop 21st century job skills."

Arne Duncan
Secretary of Education,
October 2010

Five New Impacts of DOCE Programs

"We are proud to sponsor these tribal land-grant colleges and enable them to better serve the students who attend them as well as tribal communities."

Sonny Ramaswamy,
NIFA Director. 2012

"Now is the time to re-emphasize, re-educate, and remind America about the importance of rural America,"

Tom Vilsack
Secretary of Agriculture,
2013

"The modern research university insists that faculty act beyond passive contemplation, and ensure that their ideas reach others through publications and personal interactions with their peers. This environment of engagement and performance is rich with opportunities for students."

John H. Marburger, III
Office of Science and
Technology Policy,
Director, 2001-09

National Needs Fellow Nathan Hendricks credits the NIFA grant for funding his research that will develop healthier **agricultural markets**. His research is the first of its kind to use GIS data from USDA's National Agricultural Statistic Service to analyze the farmers' response to crop price changes on crop rotations. Hendricks' results provide a new understanding of the effects of public policies on land use, the environment, and world food security and trade. "There was 11 years of data from USDA's National Ag Statistics Service that no one had ever applied to economic research. NFF gave me the time I needed to do the analysis. Now, I see other economists using it, too," said Hendricks, who is now an assistant professor at Kansas State University. [National Needs Fellowships \(NNF\)](#) support traineeship programs that engage outstanding students to pursue and complete their degrees in USDA mission areas.

Funding from an [Alaska Native and Native Hawaiian](#) project enabled Dr. Ingelia White at the Winward Community College in Hawaii to get her students to research and learn about the **medicinal and nutritional** values of the Spanish needle plant. Medicinal values include prevention of ulcers, diabetes, skin disorders, colds, and other ailments. Spanish needle also inhibits oral pathogens. The students developed a chewing gum and tooth cleaning powder to control the pathogens orally. A Spanish needle recipe by White's student won the Spanish Needle Food Pharmacy Competition. A recently published booklet and series, *Ethnopharmacognosy Series IV: Pharmaceutical and Nutraceutical Values of Spanish Needle – Plant-Based Products and Recipes*, provides the experimental protocol, associated data, medicinal products, and healing food recipes for Spanish needle.

The return of the textile industry to the United States – from cotton production to cloth manufacturing – has created a new opportunity to **rebuild healthier rural economies**. However, for the textile industry to be successful and **create jobs** in rural areas, rural entrepreneurs need to know how to collaborate with international partners and how to market their goods overseas. "The current state of textiles is an inter-connected global network of cotton, cloth, and garment production. For U.S. businesses to thrive they need to find a way to fit into this web of supply and production," said Nancy Hodges, a professor at University of North Carolina. Funded by a [Higher Education Challenge Grant](#), Hodges has collaborated with garment producers in Thailand, Russia, India, and South Africa to create an online training course for rural entrepreneurs in the textile industry. "These eight on-line courses were designed for our students who will probably work in major retail supply, but they can also be used by start-up companies looking for a way to enter the market. The best part is anyone can access them online for free."

Professor Bob Mahler at the University of Idaho completed a pilot project, funded with NIFA's [Higher Education Challenge Grant](#), to give sustainable and **organic farmers in remote parts of Idaho and Washington State online training**. This project became part of a larger web resource for sustainable farming. It also contributed to the University of Idaho eventually creating a **major in organic agriculture**. Today, Cinda Williams in the University of Idaho Extension program and Marcy Ostrom, of Washington State University, work to ensure the website provides classes in sustainable agriculture for producers, while Jodi Johnson-Maynard in the University of Idaho's Soil and Land Resources Division has been leading efforts on a degree program. "The demand for training in sustainable small acreage production became so great that we had to have two programs—one for farmers and another 4-year degree program for students," Johnson-Maynard said. The website, a partnership with Washington State University and the non-profit Rural Roots, continues to be a joint effort and is part of the "[Cultivating Success](#)" website that is funded by many USDA programs.

The Tribal College Equity project at Navajo Technical College, in Crownpoint, NM, helps to develop a **healthier rural economy** by giving reservation ranchers access to local veterinary care and career training to reservation youth. This program is important because of its potential to fill **critical job openings** in the area. The population of Crownpoint, with per capita income of \$11,657, is nearly 30 percent livestock owners, but less than 10 percent have received education or training on agriculture or animal husbandry. Veterinary clinics are 60 to 70 miles away causing higher costs and significant hardships for the livestock farmers. The Navajo Technical College also trains veterinary technicians with nine of the 10 graduates employed in the vet tech field or preparing to enter veterinary school. The [Tribal Colleges Education Equity Grants Program](#) enhances educational opportunities for Native Americans by strengthening instructional programs in the food and agricultural sciences at the 1994 land-grant institutions.

DOCE Staff Changes

There have been several staff changes in DOCE in 2013 that may impact several of our stakeholders:

- Erin Berg, program specialist for the Higher Education Programs, left the agency in October to join the Department of Education. Erin had also been the leader for NIFA's participation in the USA Science and Engineering Festival.
- Rhiannon Elms, lead program assistant for the Tribal College Group and support for several DOCE programs, left the agency in November to join USDA's Foreign Agricultural Service. Cameron Briggs serves as the new program assistant for the Tribal Programs and the Hispanic-serving institutions programs.
- Greg Smith, NPL, retired in January 2014. Greg managed the Higher Education Challenge (Edwin Lewis will be acting NPL), New Era Rural Technology, Non Land-Grant Colleges of Agriculture (Saleia Afele-Faamuli will be acting NPL), and the Secondary Education Challenge grant programs (Irma Lawrence will be acting NPL). He also oversaw the National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences (Saleia Afele-Faamuli will be acting).
- S. (Suresh) Sureshwaran became the Director of DOCE in June 2013. Suresh joined NIFA in 2001 and has worked on the National Needs Fellows, Multicultural Scholars, Small Business Innovation Research, Agriculture and Food Research Initiative, and the Beginning Farmer and Rancher Development Programs.

Outreach

As several DOCE programs deal with minority-serving institutions, outreach is very important to build capacity and evaluate program impacts. Using the limited travel funds judiciously and complementing it with more innovative outreach methods, DOCE continued to maintain the visibility of its programs to potential grant recipients and other beneficiaries:

- Dr. Muquarrab Qureshi, IYFC Director, and Greg Smith, DOCE NPL, were interviewed by the publication [BioScience](#) on the need for more graduates in agricultural science. This is a follow-up from USDA joining other federal agencies and private funders in supporting the second Vision and Change in Biology Education conference.
- DOCE provide three blogs to USDA's main website during the past 6 months
 - "A man in Arizona threw away an extension cord – and that's a big deal for some folks who live about 100 miles west of Tucson. The 48 families who live in the Pisinemo District of the Tohono O'odham Nation reside in an area so remote - [See more](#) at the USDA Newsroom
 - "Some say careers in agriculture are a thing of the past, but don't tell that to Krish Jayachandran, a professor and co-director of Florida International University's (FIU) Agroecology Program. He will tell you that agriculture is the wave of the future - [See more](#) at the USDA Newsroom.
 - "Imagine a graduate school that combined the faculty expertise of seven universities throughout the United States. Imagine this program focused on animal genetics, using the latest research data to teach students. Best of all, students can attend with the click of a mouse. It's not some futuristic university...- [See more](#) at the USDA Newsroom.

MORE INFORMATION

For questions, comments and/or suggestions please contact:

- [Muquarrab Qureshi](#), Assistant Director, Institute of Youth, Families and Communities
- [S. Suresh Sureshwaran](#), Director, Division of Community and Education
- [Jill Lee](#), program specialist, Division of Community and Education

Visit the NIFA website for [more information on DOCE](#) programs

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