



Horticulture CRSP News

New call for Trellis proposals while 2012 students continue travel

Horticulture CRSP has just released a new call for Trellis project proposals, as it prepares to fund a third round of projects that pair organizations in developing countries with U.S. graduate students beginning July 1.

“We continue to feel that Trellis is an excellent opportunity to introduce development to students who may have not considered that as a career,” said Elizabeth Mitcham, Horticulture CRSP director.

In the first round of Trellis projects,



A.J. Campbell, left, discusses diseased tomato plants with farmers during a Trellis project with Eco-Agric Uganda. This was the first in-person experience with international development for the UC Davis plant pathology doctoral student.

10 projects included 1,935 farmer participants (77% women), 124 training and extension meetings and 10 demonstration plots. The second round has 14 Trellis projects that are currently ongoing.

Organizations in 18 developing countries, from Bangladesh to Zambia, are invited to submit proposals for up to \$2,000 funding to conduct adaptive research and outreach on problems that face local farmers in horticultural pro-

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Three new Regional Centers of Innovation bloom

Horticulture CRSP opens hubs in Thailand, Honduras, Kenya

Over the course of 2012, Horticulture CRSP saw years of partnership and planning come to fruition in the openings of three Regional Centers of Innovation around the globe that focus on horticultural technologies and research. The first such center opened in February 2012 at Kasetsart University in Thailand, followed by another at the Panamerican Agricultural School, Zamorano University, in Honduras in September. Horticulture CRSP's third Regional Center of Innovation is expected to open in early 2013 at the Kenya Agricultural Research Institute (KARI) in Thika, Kenya.

The centers will each bring together key regional players to improve livelihoods of smallholder farmers and small businesses



Victor Bueso of Zamorano leads a tour of horticultural technologies during inauguration of the new center in Honduras.

in that region's developing countries.

“We're excited to see these centers become hubs for horticultural innovation. We are already seeing our partners in each region make use of their closest Regional Center of Innovation to strengthen their networks—whether through exchanging ideas, training or research results,” said Britta Lilley Hansen, Regional Centers of Innovation specialist with Horticulture CRSP.

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Director's message: Looking forward to a fruitful new year

Welcome to 2013! In compiling this newsletter, we have been reviewing much of Horticulture CRSP's busy 2012. Now we are looking forward to some exciting opportunities for horticultural development in the New Year.

Just yesterday we released a new call for proposals for our third round of Trellis projects, which aim to build relationships with new organizations and expand the horizons of U.S. graduate students. We still have seven more graduate students from our partner institutions—UC Davis, Cornell, NC State and UH Manoa—who will be traveling soon to finish up the previous round of Trellis projects, and I am eager to hear how their projects fare. We have had a very high success rate with Trellis, as most all of the projects have had positive results. Since we noticed many of the U.S. students tried to schedule their travel during school breaks, we have decided to begin recruiting for the third round of Trellis projects sooner than usual so that travel can take place over their summer breaks ([see p. 1 for more](#)).



Elizabeth Mitcham,
Director

This year we were busy opening our new Regional Centers of Innovation—first at Kasetsart University in Thailand, then at Zamorano in Honduras, and soon at the Kenya Agricultural Research Institute ([see p. 1](#)). With these centers in place, we are looking forward to long and fruitful connections with colleagues at each institution and further strengthening our network of horticultural researchers and innovators. Already, students at Zamorano have been working with students at the UC Davis D-Lab to engineer solutions to local horticultural problems. When we traveled to Zamorano for the center's inauguration in September, I was once again impressed with their learn-by-doing approach and their network of graduates throughout Central America ([p. 7](#)). The Regional Center of Innovation at Kasetsart University has already hosted several fruitful activities, including a Drying Beads Showcase that was attended by many researchers and dignitaries, including HRH Princess Maha Chakri Sirindhorn ([p. 7](#)).

On the horizon for 2013 will be the opening of our third Regional Center of Innovation, which I will be visiting later

this month in Kenya. We're looking forward to also hosting our annual meeting in and around Nairobi later in the year, which will include inviting our partners to attend a workshop at the new center at KARI.

We are also looking forward to what promises to be innovative recommendations from our Horticulture Assessment in Central America team ([p. 4](#)). This team has been visiting with numerous actors along the value chain of the horticulture industries in Honduras, Guatemala and El Salvador to identify challenges and opportunities to increase successful participation of smallholder farmers in horticulture trade. We anticipate a final report in March, along with workshops to share their insights with policymakers and possibly identify potential next steps.

Please enjoy our newsletter and look forward to hearing more from us in 2013. We look forward to working more closely with you to advance the opportunities for poverty reduction and diet diversification through horticultural production and marketing over the next year.

“We are looking forward to some exciting opportunities for horticultural development in the New Year.”

Building international partnerships for fruit and vegetable research that improves livelihoods in developing countries.

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USAID announces 'Food Security Innovation Labs'

Washington, DC—The Feed the Future global hunger and food security initiative will make focused investments in agricultural research and technologies to accelerate progress against global hunger and poverty, announced Rajiv Shah, administrator for the U.S. Agency for International Development (USAID), during a speech Dec. 7.

During his remarks, Shah emphasized the need to scale up key agricultural technologies that can transform agricultural systems and benefit millions of smallholder farmers as climate change and a growing population challenge food security. To help achieve this, he announced a new competitive exchange program that will encourage U.S. university scientists to share their expertise and increase collaboration with Consultative Group on International Agricultural Research (CGIAR) scientists around the world.

Shah also highlighted the Feed the Future Food Security Innovation Center, an updated framework that enables strengthened coordination across the seven programmatic areas of the Feed the Future research portfolio.

“We’re organizing our research agenda around the greatest challenges we face,” Shah said. “By fostering a spirit of research and innovation to dramatically accelerate development, we

can reach millions of people and transform the face of extreme poverty.”

The seven programmatic areas of the Feed the Future Food Security Innovation Center include research on climate-resilient cereals; research on legume productivity; advanced approaches to combat pests and diseases; research on nutritious and safe foods; markets and policy research and support; sustainable intensification; and human and institutional capacity development.

These programs include Feed the Future Food Security Innovation Laboratories, formerly known as Collaborative Research Support Programs, or “CRSPs,” and also integrate U.S. universities, CGIAR centers, the private sector, and civil society as fundamental partners.

Read the original version of this article at <http://feedthefuture.gov/article/feed-future-advance-research-innovation>.

Stay tuned...

One impact of this announcement is that Horticulture CRSP will soon have a new program name. We will keep you informed as we implement this change.

Program news

Awards for Horticulture CRSP researchers

Honored for scientific excellence The Board for International Food and Agricultural Development presented **James Simon**, principal investigator for Horticulture CRSP projects in Zambia and Ghana, with the 2012 BIFAD Award for Scientific Excellence in a USAID CRSP. Simon is a professor at Rutgers, the State University of New Jersey.

Jefferson Science Fellow among us **Jean Beagle Ristaino**, principal investigator for Horticulture CRSP's *Phytophthora* projects in Latin America, was named a Jefferson Science Fellow in 2012. As such, the North Carolina State University professor is serving as a senior science advisor in USAID's Bureau of Food Security.

Recent hires to the Horticulture CRSP team

Amrita Mukherjee is working as a junior specialist on Horticulture CRSP's potato storage project in Bangladesh. She most recently worked at the International Rice Research Institute (IRRI).

Alonso González is Horticulture CRSP's team leader for its horticulture assessment in Central America. He most recently led the tropical fruits program for the International Center for Tropical Agriculture (CIAT).

Tito Zúniga is serving as horticulturist on the horticulture assessment in Central America. He most recently led a national horticultural value chain project in Honduras.



In Memoriam

Adel Kader, professor emeritus at UC Davis and member of Horticulture CRSP's International Advisory Board, died Dec. 10 at the age of 71.

With his sudden death, the horticultural development community mourns the loss of a leader, teacher, mentor, colleague and friend.

Memorial services for Dr. Kader will be held Jan. 26 at the UC Davis Alumni Center. More: http://hortcrsp.ucdavis.edu/main/news/121214_Adel_Kader.html.



New assessment of horticulture in Central America underway

USAID's Bureau for Latin America and the Caribbean has commissioned Horticulture CRSP to conduct a comprehensive assessment of the constraints and opportunities for horticultural industries in Central America, with an emphasis on Honduras and Guatemala.

“There is a lot of interest in finding new insights into Central America’s fruit and vegetable industries, with an emphasis on ways to improve smallholder participation in the value chains,” said Elizabeth Mitcham, director of Horticulture CRSP. “Through this process, we hope to develop some innovative recommendations that can strengthen the horticultural sector in the region.”

A team of Horticulture CRSP and USAID researchers has interviewed more than 140 industry stakeholders, including growers, processors, representatives from input companies, government officials and academics. The team has

For more information, visit hortcrsp.ucdavis.edu/LAC/



Workers clean rambutan fruit in Honduras for sale and export.

Below: Small farming plots in Guatemala meet the forest line.

Horticulture CRSP photos by Alonso González

also hosted workshops in Honduras and Guatemala to gather information.

“From the whole diversity of people that we have spoken to—from the very small growers all the way to the large ones—there has been a very clear message about capacity building. They’re talking about extension

services, the lack of extension services, the quality of extension, who is providing this technical assistance and whether there is a big hole in the scheme,” said Alonso González, Horticulture CRSP’s team leader for the assessment.

To present primary findings, workshops are tentatively scheduled for March 11 in La Lima, Honduras and March 13 in Antigua, Guatemala.

Rationale for the assessment

Since the mid-1980s, USAID has made significant investments in the Latin America and Caribbean region to develop non-traditional agricultural export industries, including investments in production, postharvest handling, value-added processing and marketing of higher-value horticultural crops. Export of these higher-value crops and valued-added products has generated foreign exchange and contributed to GDP growth, while providing farmers and other agricultural enterprises with a greater opportunity for job creation and income generation.

More recently, USAID assistance to Guatemala and Honduras has focused its Feed the Future investments on helping small-scale producers (farms and firms) raise their incomes through adoption of improved technologies for growing, postharvest handling, processing, and marketing horticultural crops.

For small-scale producers, being able to use improved technologies depends not only on the right technologies being available, but also on producers’ access to and knowledge of how to use these technologies. Availability of technologies in a particular country will depend on whether that country (or its surrounding region) has a technology generation and

transfer system that is focused on carrying out horticultural research to address constraints of the horticultural sector. In turn, the ability of small-scale producers to adopt and successfully apply improved horticultural technologies will depend on the overall enabling environment for investment in, production of, and trading of horticultural crops.



With the proliferation of free-trade agreements between several Latin American countries and the United States, there is an urgent need to develop sustainable cropping systems, increase production, improve postharvest handling, increase value-added processing, and facilitate marketing of horticultural crops. Addressing these needs will increase competitiveness of the targeted countries, in local and international arenas.



Radeguna Kessy, with AVRDC, helped conduct the training-of-the-trainers and here shows local farmers the results of storing vegetables with a variety of different bags and cooling options. Right: New postharvest trainer Molly Allen of Uganda shows farmers how to use a zero-energy brick cooler.



Postharvest ‘master trainers’ graduate from Tanzania center

In October 2012, Horticulture CRSP researchers completed a year-long training for 36 postharvest “master trainers” from seven different African countries.

These 36 trainers were the first graduates of the new Postharvest Training and Services Center at AVRDC-The World Vegetable Center in Arusha, Tanzania. After a year of online learning and mentoring, the budding trainers each spent a week at the new center for a final round of education, culminating in their first opportunity to lead farmers in improving postharvest practices.

“This project vastly increases the numbers of experts we have in postharvest in the continent,” said Amanda Crump, Horticulture CRSP associate director, after attending the final training and opening. “It was great to see them immediately apply all that they had learned through the year to train local farmers.”

Over the course of the year, the master trainer candidates each completed a series of 10 assignments that ranged from a commodity systems assessment to developing training materials and designing training programs and their own version of a postharvest training and services center.

These trainers then met in Arusha to complete their training and explore the Horticulture CRSP Postharvest Train-



Above: Lisa Kitinoja, front far left, introduces some of the new postharvest trainers to a farmers group. Left: the Postharvest Training and Services Center.



ing and Services Center. In two groups, 18 trainers spent a week reviewing their knowledge, asking final questions and developing relationships with postharvest experts including Diane Barrett of UC Davis, Lisa Kitinoja and Lizanne Wheeler of the Postharvest Education Foundation, and S.K. Roy of Amity University. The

trainers learned about and demonstrated a variety of postharvest technologies, including a zero-energy brick cooler, solar dryers and others. They learned how to operate various tools for postharvest, including sizing rings, color charts, chlorine test strips, refractometers, digital thermometer probes, scales and others.

Upon graduating, each of the trainers received a postharvest toolkit with these tools to help them get started with their next task—training farmers in their own countries and ultimately opening up their own postharvest training and service centers.

With these technologies and tools, the candidates provided demonstrations for

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Trainer Janne Remme of Tanzania directs a farmer as he tries out the solar dryer.



Tigist Shonte of Ethiopia cuts wire to create sizing rings for her postharvest toolkit.



Above right: Kitinoja discusses the details of a tomato color chart with trainer Dr. Jane Ambuko of Kenya.



From left, trainers Herve Ineza of Rwanda and Harriet Okoed of Uganda cut and wash amaranth leaves for a drying and storage demonstration.



At right: Dari Linda, a trainer from Ghana, prepares tomatoes for a solar drying demonstration, while fellow trainer Mfashubumenyi Kizito, of Rwanda, photographs the process.



Trainers *—Continued from page 5*

more than 100 local farmers on postharvest processing, fresh handling, drying, and food safety in their final day of transition from trainee to trainer. Among the local farmers were also members of the Tanzania Agriculture Productive Program (TAPP) and the Tanzania Horticultural Association (TAHA).

Lisa Kitinoja of the Postharvest Education Foundation, and leader for the World Food Logistics Organization on this Horticulture CRSP project, highlighted the opening of the Postharvest Training and Services Center as one of the most important accomplishments of the project so far.

“The site is now be-

coming a gathering place for local farmers, extension workers and postharvest researchers, just as we intended,” she said.

The model of the Horticulture CRSP Postharvest Training and Services Center at AVRDC not only includes education in improved postharvest practices, but also sells equipment and services—so that such centers can be self-sustaining.

“ I think we all learned that this kind of hands-on, practical training takes more time and effort than we first expected—but the rewards for hard work have been higher than we anticipated also. ”

—Lisa Kitinoja,
Postharvest Education Foundation
& World Food Logistics Organization

Throughout the next year, Barrett, Kitinoja and other partners will continue to offer local training programs at the Postharvest Training and Services Center, while also supporting the new master trainers as they provide postharvest programming for small-scale growers, marketers and processors.

“I think we all learned that this kind of hands-on, practical training takes more time and effort than we first expected—but the rewards for hard work have been higher than we anticipated also,” Kitinoja said. “Many of our new ‘postharvest specialists’ are already working together on postharvest research projects or writing new proposals for training programs, while others have been hired for consulting assignments in the region or awarded fellowships that will allow them to continue their postharvest studies and/or extension work in their own countries.”

For more about this project, visit hortcrsp.ucdavis.edu/main/26pharvest_train.html.

Centers – Continued from page 1

Though the activities of each center is shaped by its local leadership and agriculture in the region, the three centers share primary goals of advancing horticultural technologies, providing horticultural training and building capacity.

As the first center to open, the Regional Center of Innovation at Kasetsart University has already hosted an event highlighting a promising horticultural technology. The Drying Beads Showcase, held Oct. 25, was attended by not only development professionals and agricultural experts, but also by Princess Maha Chakri Sirindhorn of Thailand.

The center in Thailand has also co-

sponsored the 31st International Vegetable Training Course with AVRDC-The World Vegetable Center and participated with informational exhibits at both Horti Asia and at the International Society for Horticultural Science symposium.

The Regional Center of Innovation at Zamorano opened Sept. 28 in Honduras and is already testing new technologies for horticultural use, including macro tunnels and a solar pump with micro-drip irrigation system. Through the center, students at Zamorano are partnering with students of the D-Lab at UC Davis to develop and

test additional new tools and solutions for fruit and vegetable production.

The Regional Center of Innovation at KARI will open soon at a KARI event that will also celebrate the opening of a new practical training facility housing the center.

To learn more about the centers, visit hortcrsp.ucdavis.edu/main/centers.html.

“With three Regional Centers of Innovation open, we are looking forward to strengthening existing relationships and building new ones—all while focusing on improving horticultural production within each region,” Hansen said.

Center in Kenya to host workshop for partners

The Horticulture CRSP Regional Center of Innovation at the Kenya Agricultural Research Institute (KARI) will officially open in early 2013. The center will be housed at a new KARI facility run jointly with the Fresh Produce Exporters Association of Kenya. The new center will focus on researching technologies, with emphases on postharvest practices, nutrition education and IPM for horticulture.

Horticulture CRSP partners will be invited to the center at KARI for a workshop as part of the Horticulture CRSP annual meeting, May 6-11.

Thai princess tours drying beads event



Princess Maha Chakri Sirindhorn, center, discusses seed drying with Johan Van Asbrouck and Patcharin Taridno of Rhino Research while touring stations displaying ways to use zeolite-based drying beads at an event Oct. 25 at Kasetsart University. The showcase was hosted by Rhino Research, Horticulture CRSP and the Horticulture CRSP Regional Center of Innovation at Kasetsart University.

Inauguration for new center in Honduras gathered dignitaries

Horticulture CRSP and the Panamerican Agricultural School, Zamorano University, celebrated the official beginning of a new partnership Sept. 28 in Honduras. The joint venture, called the Horticulture CRSP Regional Center of Innovation at Zamorano, supports innovative technologies and information dissemination to benefit smallholder fruit and vegetable farmers in Central America.

Several distinguished guests spoke to the importance of the center, including

the Honduran Minister of Agriculture, Jacobo Regalado; USAID/Honduras Mission Director, James Watson; and Zamorano Rector, Roberto Cuevas García. Also attending were representatives from the Fundación Hondureña de Investigación Agrícola (FHIA), the Association of Development and Service Organizations in Guatemala (ASINDES-ONG), the Programa de Manejo Integrado de Plagas en América Central (PROMIPAC), and iDE. Elizabeth Mitcham and Michael Reid

of Horticulture CRSP, Ernesto Garay of Zamorano, Jorge Soto of USAID-ACCESO and Francisco Diaz of FHIA each also gave presentations at the event.

The new Horticulture CRSP Regional Center of Innovation at Zamorano brings together researchers, extension workers and members of the private sector to conduct research on innovative horticultural technologies, showcase those technologies, and disseminate horticultural information.



Carrie Teiken, a UC Davis graduate student, examines a citrus tree with volunteers and farmers during her time in Uganda for a Trellis project.



Top: Rachel Suits, graduate student at NC State, helps set up an intercropping field trial in Nepal.

Above: Bryan Sobel, of Cornell, teaches a women's cooperative in Rwanda about mushroom production.

Trellis —Continued from page 1

duction, pest management, postharvest practices, nutrition or marketing fruit and vegetable crops. Proposals must outline the expertise that the organization needs from a U.S. graduate student, as well as goals and activities of the project.

At the same time, U.S. graduate students from the University of California, Davis, Cornell University, North Carolina State University and University of Hawaii at Manoa are invited to apply to be part of the Trellis projects. Selected students will be reimbursed for travel expenses to visit their project and receive a small fellowship for 100 hours of additional support for the project by correspondence.

Horticulture CRSP will select up to 12 of the most successful project proposals for funding and then pair a student with related expertise to the project. Project proposals and student applications are due by March 4.

Though the application process for the third round of projects has now begun,

current Trellis projects that started in September 2012 continue on. About half of the graduate students have already traveled for their projects. Reports so far have been positive.

“I was wondering how much of an impact I could actually make, but I was pleasantly surprised,” said A.J. Campbell, a UC Davis graduate student in plant pathology, about her time with a Trellis project. She worked in Uganda on an orange-fleshed sweet potato project, but also helped farmers with diagnosing diseases and other problems in a variety of crops.

The deadline for proposals and applications is March 4. For more information or to apply, visit hortcrsp.ucdavis.edu/main/trellis.html.

“Some of the management practices I suggested they had heard before, but some they hadn't heard of—or hadn't heard from a reliable source,” she said. “So I think it helped that the information came from someone with an academic background. It was amazing how much the farmers wanted to cooperate with the organization.”

Bryan Sobel, a Cornell graduate student studying horticulture, is working on a master's thesis about mushrooms and recently returned from working on a

Trellis project with a women's cooperative in Rwanda, where mushrooms are a particularly high-value crop.

“I could tell that the women were very excited to learn to grow mushrooms and that they recognized this as valuable knowledge,” he said. “I think that I have given them the opportunity to make a difference. You can't go and make a difference in lives in two weeks. This is their project, and now it is up to them. They've already had their first harvest of mushrooms.”

Sobel will continue to work with the project in the following months, as they attempt marketing their mushrooms and address nutrition-related objectives.

“I want to pursue a career in international ag development, so I'm very pleased with this program, to be able to travel and do this type of work,” he said.