



Office of International Programs *Monthly Newsletter*

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Bullock and Dunker improving maize production and management in China's Jilin Province



ACES Agronomist Bob Dunker with Chinese colleague

When ACES Agronomist Bob Dunker first visited the "cornbelt" of China, as part of the Office of International Programs' Global Academy in September 2009, he saw farmers harvesting individual maize plants by hand with machetes. The Jilin Province (in northeast China) has the right climate and good soils for producing maize, so Dunker recruited Professor Don Bullock, also of Crop Sciences, for a collaboration with Jilin University to investigate how

mechanization might improve this area's maize production rates. However, their findings thus far show that simply implementing new technology is not the easy answer. "They can't just use a machine to do the same things they did by hand. Using new equipment requires the use of new genetics and a better understanding of agronomy," summarizes Bullock.

Following his first trip to China, Dunker approached John Deere about providing equipment for demonstrations and research in China. "John Deere was immediately interested and built us a precision planter in Moline, IL, and sent it to China." The initial experiments looked at the responses to modern technology, fertilization, and seeding rates. However, after the first two years, it became obvious that mechanized precision planting was not increasing production in Jilin as expected. Bullock and Dunker concluded that the farmers need a systems-wide approach that includes hybrids and system management. Dunker explains, "There was no yield increase even when they used more seed because the hybrids being used weren't adopted for mechanical harvest. For example, the plants were not maturing before the freeze and were being harvested before they were ready."

Bullock's research interest is in the merger of information and technology: "You can't realize a benefit from technology if you don't know how to use it. What we observed told us it would be more complicated than just obtaining a new planter. They need to change the way they make some decisions." With the realization that equipment and genetics are complimentary, the team approached Monsanto, who also responded quickly with an interest in developing hybrids that will respond to higher population densities in this climate. The two ACES researchers have returned to China during March 2012 for a workshop to review past results and plan for another round of experiments. Then, in May 2012, they will re-visit the area to assist with planting. Both researchers say that the Chinese are very interested in improving their genetics to complement the new equipment, and they foresee tremendous possibility for maize production in China.

USAID workshop on Feed the Future initiative set for April 18; workshop will coincide with ACES Distinguished International Lecture

OIP is pleased to announce a day-long program, "**ACES International in Action: Engagement with the Feed the Future Initiative**," set for April 18, 2012, at the Levis Faculty Center on campus. The goal of this workshop is to educate and inform ACES faculty/staff on how their current activities may fit into the U.S. government's Feed the Future initiative. The keynote speaker at the workshop will be Dr. J. Vern Long, a senior international agriculture research advisor with the United States Agency for International Development (USAID). Long manages USAID's research investments in sorghum, millet, and peanuts through the Collaborative Research Support Programs (CRSPs) based at U.S. universities, and through member centers of the Consultative Group on International Agricultural Research. Long will be joined by Dr. Robert Bertram, Director of the Office of Agricultural Research and Policy in USAID's Bureau for Food Security, who will be the speaker at the ACES Distinguished International Lecture, held on the same day. If you are interested in attending this day-long workshop, which will have limited seating, please contact OIP Program Coordinator Suzana Palaska-Nicholson (spalaska@illinois.edu).

As part of the ACES Distinguished International Lecture series, Dr. Bertram will speak on: "**Science and Policy for Food Security: USAID's Feed the Future Research Programs and Partnerships**" at 1:00 p.m. on the third floor of the Levis Faculty Center. All members of the University of Illinois are welcome to attend this lecture. Bertram's office is home to USAID's agricultural research programs, engaging the U.S. university-led CRSPs, the CGIAR system of international agricultural research centers, and a range of public and private partnerships in biotechnology, policy, extension, and capacity building.

OIP welcomes new office manager

Jason Mierek has joined the team in OIP as office manager. Jason comes to OIP from the College of Fine and Applied Arts (FAA) where he served as Office Support Specialist since 2005. Jason's educational background includes an M.A. in Buddhist Studies from The Naropa Institute and a B.A. in Religion and Bio-Cultural Studies from Illinois Wesleyan University. He concurrently teaches at Parkland College.



Kushad trains apple growers in Lebanon



Historically, northern Lebanon served as a major apple producer and supplier to the Middle East. However, due to residual effects of instability and antiquated growing systems, northern Lebanon's apple farmers have not been successful in exporting their crop. Thus, many apples

are wasted; farmers are not realizing potential profits; and the markets of neighboring countries are instead stocked with U.S., Australian, and European apples.

Hoping to help improve this situation, ACES Crop Sciences Professor Mosbah Kushad traveled to the Akkar region of northern Lebanon during January 2012, as a volunteer for a project organized by ACDI/VOCA, to educate apple growers on how to improve their fruit quality.

"The farmers were extremely welcoming and passionate about learning new techniques. Seventy-five of them showed up on a snowy day to learn. They wanted to know what they can do, but they have limited resources, such as few pesticides and a lack of technical assistance (extension) to compete with U.S. and European apples. The cosmetic quality (of their apples) is not there. It is a beautiful area, ideal for apple growing, but it is also isolated with a high-poverty rate, poor road system, and inconsistent electricity."

Kushad notes that storage issues as well as fruit quality are the two main contributors to growers' inability to export apples. Although a new storage facility is a huge step forward in meeting the ultimate goal of the Akkar apple industry to once again export, Kushad says, "Lots of work needs to be done in the field first." Due to lack of effective production systems and schedules, the apples are not managed properly and harvested fruits spoil easily. His visit coincided with the pruning season, so he organized workshops and field demonstrations on pruning, tree training systems, pest management, variety selection, and other issues pertinent to growers. "I was able to spend a lot of time in the field, showing them the basics and applying what we've talked about. We were also able to develop guidelines for fruit quality that meet international standards. I was very happy with the outcome of the trip and the possibilities I foresee for these growers to compete locally and internationally."

Seed Grant winners announced

OIP congratulates its International Seed Grant winners for Spring 2012. The funding of the International Seed Grants program is made possible through support provided by the Arlys Conrad Endowment Fund. This semester's winners are: **Dr. Kathy Baylis**, Department of Agricultural & Consumer Economics: "Effect of Marketing Institutions on Post-harvest Loss and Farmer Welfare"; **Dr. Yuanhui Zhang**, Department of Agricultural & Biological Engineering: "A USA-Brazil-China Consortium for Environment-Enhancing Energy Research and Education"; **Dr. Xinlei Wang**, Department of Agricultural & Biological Engineering: "Develop Exchange Program between University Illinois and Zhejiang University for Student Study Abroad"; **Dr. Richard S. Gates**, Department of Agricultural & Biological Engineering: "First International Workshop on Emissions, Ventilation and Well-Being for Animal Production Systems"; and **Dr. Patrick J. Brown**, Department of Crop Sciences: "Genomics—Assisted Improvement of *Jatropha* as a Source of Feed, Fuel, and Hillside Stabilization in Haiti."

Visiting scholars from Pakistan advancing "wonder plants"



The College of ACES is hosting two visiting scholars from Pakistan during spring semester 2012 as they further their work on two plants widely celebrated for potential health benefits: flaxseed and the moringa tree.

Nazia Yaqoob, a student from the Agricultural University of Faisal Abad in Pakistan, is working in Dr. William Artz's lab to identify and characterize the lipids and antioxidant components in Pakistani flaxseed varieties and to stabilize the antioxidants after extraction to keep them from deteriorating.

Flaxseed, known for a wide-variety of health benefits and suspected to have protective effects against cancer, tends to grow well in cooler climates. Yaqoob notes that although Pakistan has cooler areas that would be ideal for growing flaxseed, it is currently not commonly grown there. Therefore, she hopes that her work will someday result in Pakistan increasing its production of flaxseed. Yaqoob says that she needed access to the state-of-the-art equipment here in ACES to complete her study. She greatly appreciates the support and knowledge she has gained from working with Dr. Artz and his colleagues including John Jerrell, Dr. Hao Feng, Dr. Keith Cadwallader, and several other members of the Department of Food Science and Human Nutrition.



Umbreen Shahzad, a visiting scholar also from Faisal Abad, is working in Dr. Schuyler Korban's lab to study the genetics of the Moringa Tree. She is characterizing the genetic diversity of this plant material using molecular markers and understanding the

phylogenetics of this species. Flowers and leaves of moringa are known to have great medicinal and nutritional values. Umbreen is working closely with Dr. M. Awais Khan, a Postdoctoral Research Associate in Korban's lab. Dr. Khan happens to be a native of Kashmir in Pakistan.

OIP welcomes new graduate assistant

OIP welcomes its new graduate assistant, Tengjiao Chen, who will work closely with our Program Coordinator to develop an appreciation and understanding of the diverse international activities and engagements in the College of ACES. Tengjiao will assist in the design of the 2012 Summer Apprenticeship Program for Zhejiang University (China) students and act as the student liaison for this program. Tengjiao is a graduate student in ACES studying Agricultural and Biological Engineering working with Dr. Luis Rodriguez to develop a model to optimize the rice supply in the Philippines. He holds a Bachelor's degree in Biosystems Engineering from Zhejiang University.

