

# International Programs In Agriculture



“...to promote and facilitate international activities in the School of Agriculture...”  
*Mission Statement*

## Message from the Director— *Why International Programs?*

Although I have been the Director of this office for more than a decade, I still hear occasional questions regarding the goals and purposes of International Programs in Agriculture (IPIA). Our great task, in my view, is to make certain that the School of Agriculture acts on the principle that an institution of higher agricultural education, in this period of history, cannot do its job responsibly without proactive interaction with the rest of the world. Specifically, I believe that our educational and research programs must operate in the context of a world without borders – or at least a world in which borders are of diminished significance. To suggest that knowledge and technology, our “currency” in the educational arena, occur in a geographic vacuum is to violate the nature of the world in which we live. We cannot pretend that knowledge is constrained by lines on a map. Knowledge is the domain and common inheritance of humankind and our responsibility as an institution of higher learning is to promote this principle.

Thus, our task and goal in IPIA is to insure that knowledge from all corners of the world is accessible and that we engage with others to share this collective wisdom in order to make the world a better place. A global perspective must be embedded in all three of our core missions. “International” is not a new mission but rather a new context for our traditional core missions. Learning, discovery, and engagement are enhanced by the international dimension. Our international activities, led by IPIA, will help us to overcome the prejudice, suspicion, and violence that darken the world in which we live. This is a tall order for IPIA but one which we cannot ignore. As you read below, you will learn more about what we are doing to discover and share knowledge, to use technology to improve lives around the world, and to contribute our energy and expertise to make the world a better place through the internationalization of our missions in learning, discovery, and engagement.

- David J. Sammons, Director

## Research and Development Cooperation

International research contributes to global science and also benefits both Indiana citizens and people around the world. With administrative support from *International Programs in Agriculture, Purdue’s School of Agriculture* has been actively involved during the past year in multiple research and development efforts that serve these twin goals.

**China.** IPIA-led programs in China, supported by a gift from Professor emeritus John Tse, continue to grow and thrive. Tse’s gift supports a unique partnership with a consultant in China, Dr. Chonghua Zhang. Our partnership with Dr. Zhang provides Purdue Agriculture with a

permanent, credible presence in China that has enabled us to multiply the original gift several fold by leveraging funds to support numerous activities, some of which are highlighted here:

- Animal Sciences/IPIA completed a three-year swine nutrition training program in China this year. The program, funded through the USDA “Emerging Markets Program,” reached over 1500 feed industry professionals in China in more than a dozen large cities in China’s “swine belt.” The training program consisted of modules on meat quality, nutritional considerations, disease management, record-keeping, and aspects of business manage-

ment pertinent to high quality swine production.

- Purdue faculty from the Department of Forestry and Natural Resources organized and took leadership for a conference on digital applications to forest management in China. The conference, which met in Beijing and included a tour to northern China, took place in June 2004.
- IPIA took campus leadership in the development of a linkage program with Zhejiang University in Hangzhou, China. A senior delegation of individuals from the Purdue Schools of Engineering, Pharmacy/Nursing/Health Sciences, Science, Consumer and Family Sciences, and

## Research and Development Cooperation *continued*

Agriculture traveled to Hangzhou in October 2003 for meetings with counterpart faculty at Zhejiang University. A direct result of this partnership in the School of Agriculture was the placement of a doctoral student from the Department of Agricultural Economics at Zhejiang University to collect research data during a period in April 2004.

- Purdue continues to be an active member of the consortium of U.S. Universities and Institutes in Cooperation with China for Agriculture (UCCA). The consortium organized a workshop at China Agricultural University in February 2004 entitled "Building the ICT for Development Capacity of Agricultural Universities in China: A Strategy Formulation Workshop." The 50+ participants included representatives of both Chinese and U.S. universities.
- IPIA has worked with a campus level group to create a new "China Center" which will support campus wide activities that link Purdue to institutions and people in China.
- The second International Conference on Agricultural Science and Technology (ICAST) met in Houston in October 2003. Purdue scientists played a role in the program through participation in a specially organized China symposium that focused on the development of western China.

**Afghanistan.** Purdue Agriculture continued its involvement with efforts to contribute to the rebuilding of Kabul University in Afghanistan during the past year. Our principal activities, coordinated through a campus level steering committee at Purdue, have focused on curriculum modernization within the Kabul University Faculty of Agriculture. In addition to the work with Kabul University, a Purdue Agriculture faculty member made several trips to Afghanistan as part of federal government efforts to contribute to rebuilding the agriculture sector in the country.

**India.** IPIA is working with a group led by K. Raghobama, De-

partment of Horticulture and Landscape Architecture, on a US-AID-funded university partnership program in India. The project focuses on enhancing institutional capacity in biotechnology education and research at the University of Agricultural Sciences in Bangalore.

**Vietnam.** IPIA continues its role with a project in Vietnam led by Jerry Shively, Department of Agricultural Economics, funded by USAID. This project links Purdue Agriculture with Nong Lam University in Ho Chi Minh City in the development of environmental case studies for strengthening the curriculum. Selected case studies address themes that include ecotourism, the management of biodiversity in wetlands, protection of mangrove swamps, and cacao expansion in the uplands of Vietnam.

**"Efforts devoted to this region of the world continue to flourish despite the impediments created by disruption in the region."**

**Middle East and North Africa Water Resources Activities.** Efforts devoted to this region of the world continue to flourish despite the impediments created by disruption in the region. Much of the leadership for current activities comes from the Department of Agricultural Engineering and is further discussed under that Department's entry which follows. Included in our efforts this past year was the completion of the United States-Palestine Linkage (UPLINK) program funded by US-AID. This project partnered Purdue Agriculture with four universities in the Palestinian Territories

as well as the Palestinian Water Authority in the development of a master's degree program in water resources management. The group has also developed a web site to highlight our joint activities [<http://www.pasture.ecn.purdue.edu/~h2o>].

Purdue Agriculture continues to work with Washington State University on a long-term capacity building effort with the Jordanian Ministry of Water and Irrigation. This project, entitled "Skills Enhancement and Support to Decision-Makers in Jordan's Water Sector," includes educational modules on topics jointly identified by the Jordanian Ministry and U.S. faculty participants. Project leadership includes, in addition to the U.S. university partners, faculty from the University of Jordan, the Jordan University of Science and Technology, and Hashemite University.

Additional water sector activities in the region include those led by the Department of Agricultural and Biological Engineering in Tunisia that focus on hydrology and water resource conservation and management, described in more detail in that department's section which follows.

**Honduras.** Our relationship with Zamorano College took a new direction this year with the inclusion of three Purdue faculty in an intrasession enrichment program there. The Purdue faculty spent a week in October 2003 presenting seminars and lectures to enrich the current teaching program at Zamorano. In addition, Purdue Agriculture contributed to an assessment and review of the information and communication technology needs on the Zamorano campus as it looks to the future. Our ongoing relationship *vis-à-vis* student study abroad, exchange, and faculty collaborative research continues.

**Angola.** At the invitation of the Governor of Kunene Province in southern Angola, Purdue Agriculture has embarked on the development



Purdue Professor Jess Lowenberg-DeBoer discussing use of agricultural chemicals with producers in Angola.



Purdue Professor Jess Lowenberg-DeBoer and IPIA Director David Sammons with a representative of Governor Pedro Mutinde, Kuene Province, Angola.

## Research and Development Cooperation *continued*

of a new initiative in that country. The purpose of the initiative, launched in January with a visit by two Purdue faculty, is to partner with leaders in Angola to assist with the rebuilding of the agricultural base, which has been much damaged by more than 30 years of war and unrest. Among the partners in this initiative is the Faculty of Agriculture at Agostinho Neto University in Luanda.

**Cameroon.** Purdue Agriculture has joined an effort to establish a new comprehensive university in the West African nation of Cameroon. Led by a faculty member at Indiana University School of Medicine and joining Purdue with Ball State University and Notre Dame University, the new institution will be called African University. A legal foundation has now been developed and plans are underway to secure funding. A concept paper for a Faculty of Agriculture, the first faculty envisioned at African University, is under discussion.

**Egypt.** A university group, including Purdue University, under the Midwestern University Consortium for International Activities (MUCIA) has been awarded a USAID contract for work in Egypt. The project, led by the University of Illinois, is entitled "Agricultural Exports for Rural Income" (AERI). It consists of multiple components around the themes of building Egypt's capacity to export horticultural crops and to bolster the capacity of higher education as a key part of this effort through curriculum reform, research, capacity building, and strengthened academic leadership.

**Collaborative Research Support Programs.** Purdue continues to be actively engaged in the USAID-supported Collaborative Research Support Program (CRSP) working with scientists in more than 20 countries around the world. At present, Purdue is a partner in five CRSPs: Bean/Cowpea CRSP; Integrated Pest Management

CRSP; International Sorghum and Millet (INTSORMIL) CRSP; Peanut CRSP; and Sustainable Agriculture and Natural Resource Management (SANREM) CRSP. Multiple faculty and staff from nine departments in two Schools (Agriculture; Consumer and Family Sciences) are affiliated with one or more of the CRSPs. CRSP highlights for the 2003-2004 period are described below.



View of floating market in Cantho, Vietnam marketing pineapples.

## CRSP Highlights

**Integrated Pest Management (IPM) CRSP – Bangladesh and Mali.** Jerry Shively continues to work with host country collaborators to assess the economic impacts of improved pest management practices among smallholder rice and vegetable farmers in Bangladesh.

In addition, Dr. Rick Foster worked with the IPM CRSP to help reestablish the tomato industry in Mali.

**IPM CRSP – Central America.** The IPM CRSP continues efforts to reestablish Guatemala's regional competitiveness and trade expansion in the nontraditional agricultural export (NTAE) sector. The IPM CRSP has developed NTAE production strategies and pre-inspection protocols to serve as the foundation for future Government of Guatemala pre-clearance programs and policies. This past year pre-inspection, production, and post harvest handling training was conducted and protocols were compiled for the preparation of a pre-inspection manual. The completion and distribution of the manual will help exporters meet sanitary/phytosanitary and food safety requirements and eventually lead to pre-clearance for NTAE commodities. Collectively, the collaborative

research activities and training over the past years have helped reduce grower reliance on chemical pest control methods, improved economic returns to growers, and enhanced the socioeconomic welfare of NTAE households.

The IPM CRSP has expanded within the region to Honduras. The Honduran Agricultural Research Foundation (FHIA), Zamorano College, Universidad del Valle in Guatemala City, Purdue University, and the University of Arizona have collaborated on the molecular identification of viral diseases affecting solanaceous and cucurbitaceous crops grown locally. Plant viruses are important limiting factors in vegetable cropping systems in Central America. Viral disease resistance is the ultimate goal of this research, which will result in reduced reliance on chemicals and increased opportunities for export of these horticultural crops.

**Bean/Cowpea CRSP.** Dr. Joan Fulton became chair of the West Africa Region of the Bean/Cowpea CRSP in May, 2004. Dr. Jess Lowenberg-DeBoer is West Africa's regional facilitator for the CRSP. Fulton and Lowenberg-DeBoer have bean and cowpea marketing studies underway in Senegal, Mali,

Niger, Nigeria, Benin, Tanzania, Malawi and Mozambique. Dr. Larry Murdock worked through the Bean/Cowpea CRSP to organize an informal partnership between the Network for the Genetic Improvement of Cowpea for Africa (NGICA) and the African Agricultural Technology Foundation (AATF). He organized a meeting between cowpea scientists and AATF in Nairobi, Kenya, and also organized a cowpea stakeholders workshop in Accra, Ghana to promote cowpeas as one of AATF's technology initiatives.

**Central America.** With the continued focus on development of value-added, bean-based products within the Bean/Cowpea CRSP, Suzanne Nielsen (Department of Food Science) and her graduate student have developed a snack bar with a bean-based filling. This work was done in cooperation with a major food company. The bean fillings were flavored as lemon-lime or nacho cheese. Sensory evaluation of the products done at Zamorano College with students and people in the community showed the products to be very acceptable.

**West Africa.** Dr. Jess Lowenberg-DeBoer presented a paper on the potential economic and trade impacts of genetically modified



## CRSP Highlights *continued*

cowpea at the Workshop on Genetic Improvement of Cowpea. The workshop was hosted by the African Agricultural Technology Foundation (AATF) and the Network for the Genetic Improvement of Cowpea for Africa (NGICA) in Accra, Ghana, Feb. 10-12, 2004.

Dr. Joan Fulton spent two weeks in Senegal working with colleagues from the Senegalese Institute for Agricultural Research (ISRA) on the potential market for processed cowpea products. They interviewed processors, retailers, and consumers in Dakar, Thies, and St. Louis.

**International Sorghum and Millet (INTSORMIL) CRSP.** An External Evaluation Panel conducted a

review of the INTSORMIL Horn of Africa (HOA) Regional Program in early fall 2003. Senior administrators from Purdue traveled to Kenya and Ethiopia as part of the EEP review in the region. Gebisa Ejeta, Principal Investigator and HOA regional coordinator, also accompanied the team during their review of the programs in Eritrea, Ethiopia and Tanzania. In April 2004, a Purdue-organized meeting was held in Ouagadougou, Burkina Faso, for the West Africa Regional program. This meeting brought together approximately 57 collaborating scientists and administrators from the region to develop two-year regional work plans, and to incorporate the West Africa/Eastern and Western regions

under one program to be coordinated by Bruce Hamaker, Principal Investigator and W. Africa Regional Coordinator. The countries involved include Senegal, Mali, Niger, Burkina Faso, Ghana and Nigeria.

**Peanut CRSP:** Under the leadership of Rick Mattes, Foods & Nutrition, three clinical interventions have documented that peanut consumption significantly improves lipid profiles and aids in weight loss/weight maintenance. Another international, multi-center clinical trial with collaborators in Brazil and Ghana is being conducted exploring the effects of chronic peanut oil consumption on appetite and food choice.



Young boy employed to scare birds from a sorghum field in Ethiopia.

## Academic Programs

**S**tudy abroad is rapidly moving from the academic margins to the core of U.S. higher education. The mission of agriculture study abroad is to help prepare agriculture students for the global nature of our modern world by increasing opportunities for undergraduate participation in study abroad, overseas internships, and international studies. Student participants in these programs not only build their resumes, but also acquire valuable cross-cultural skills.

**Study Abroad and Internships.** Purdue agriculture students can now choose from 31 study abroad and internship programs, involving 25 institutions in 21 countries. Agriculture now has the highest percentage of its students studying abroad of any school at Purdue; nearly a quarter of all students studying abroad at Purdue are enrolled in the School of Agriculture. During the past year, IPIA sent 180 students on study abroad programs or internship experiences in 17 countries—a record number, which represents nearly an 8.3 percent increase in participation over the previous year. During this same period, three students completed

requirements for the International Studies Minor. Over 19 percent of Agriculture students participate in an overseas experience prior to graduation. The School of Agriculture hosted 25 exchange students from Japan, New Zealand, Sweden, Switzerland, France, England, Ireland, Germany, Greece, and Austria during the past year.

**Short-Term Study Abroad.** The popularity of short-term study abroad programs is increasing in the School of Agriculture. This year, seven short-term courses were offered overseas, in addition to the usual summer, semester, and year-long study abroad opportunities. The Schools of Agriculture and Liberal Arts cooperated to offer 14 students an opportunity to study the transitioning economy and agriculture of **Cuba**. This is the first time that Agriculture students have had an opportunity to study in this Caribbean nation. The Departments of Animal Sciences and Agronomy taught a three-credit course in **Hungary** and **Romania** focused on animal agriculture that attracted 23 students. An additional 15 students studied ecological issues in

**Costa Rica** in a course offered jointly by the Department of Entomology and Department of Botany and Plant Pathology. The Department of Agricultural and Biological Engineering taught a course on food production in **Brazil** that enrolled nine students. Another course, offered by the Department of Horticulture and Landscape Architecture in cooperation with the Department of History, provided 38 students an opportunity to study the history of the **British** landscape. The Department of Forestry and Natural Resources taught their biannual course on land use in the **Yucatan**, which sent an additional four students abroad. In addition,



Purdue Professor Harry Targ with students at a study abroad site in Cuba.

**“...three clinical interventions have documented that peanut consumption significantly improves lipid profiles and aids in weight loss / weight maintenance.”**

## Academic Programs *continued*

Agriculture piloted a 2004 Spring Break international travel course in **Ireland** in cooperation with Purdue's partner institution, University College Dublin, which attracted 45 participants, each of whom earned one academic credit. This course will be repeated next Spring Break, along with a new offering in **Italy**.

In 2005, short-term courses will take students to Brazil, Trinidad/Tobago, Panama, Russia, China, Australia, Italy, Ireland, England, Sweden, Jamaica, and Western Europe.

**Scholarships.** Partial support for study abroad programs comes from \$25,000 in scholarships provided by the Purdue Agricultural Alumni Association, the Purdue Agricultural Alumni Trust Fund, the Walter Pugsley Memorial Endowment, the T. Kenny Phan Study

Abroad Scholarship, and an endowment established by former Agriculture Dean Robert Thompson and Karin Thompson.

In addition, the Departments of Agricultural and Biological Engineering, Forestry and Natural Resources, Food Science, and Horticulture and Landscape Architecture now offer their own study abroad grants for students studying overseas.

**Host Family Participation:** A total of 10 Indiana families hosted international exchange students from Japan and Ireland. Host fami-



*Purdue students in Cuba who participated in a new study abroad program.*

lies provided room and board, an environment for cultural exchange, and an opportunity for non-English speaking students to strengthen their English skills.

## Extension and Outreach

**I**nternational extension efforts continue to grow through a partnership between IPIA, Purdue Cooperative Extension Service, and the School of Agriculture. Through this partnership, a full-time position was created, and Kelli Selby was selected to serve as the International Extension Program Coordinator. During the past 18 months, Kelli completed her Master of Science degree in Agriculture and Extension Education at Purdue University. Her research included an analysis of the staff development needs and opportunities related to international aspects of Extension. Kelli received her Bachelor of Science degree in Agriculture Education from Iowa State University, where she also worked in the Agriculture Study Abroad Office. As the Program Coordinator, Kelli will lead efforts through the statewide Extension system to:

1. Initiate new opportunities to enhance the ability of Extension educators to provide improved service to immigrant residents in Indiana;

2. Identify and initiate opportunities to better position Indiana farmers and businesses to compete in the global marketplace in cooperation with Indiana state government;
3. Provide international travel opportunities and resources for Extension educators to build experience in creating internationally-focused programming.

Additional leadership for these efforts is provided by Dr. Floyd Branson who is the retired Assistant Director of Purdue Cooperative Extension Service.

**Staff Development Programs.** Numerous efforts were initiated to strengthen the competence and confidence of Extension field staff to work with international aspects of Extension as follow:

- In 2003, Purdue received a grant from the USDA/CSREES "National Initiative to Internationalize Extension" to create a national, web-based staff development curriculum. To accomplish this task, Purdue has partnered with Iowa State University,

Ohio State University, and Florida A&M University. It is expected that the curriculum will be officially launched in late summer of 2004.

- In fall of 2003, one-day workshops focusing on multiculturalism were provided for approximately 100 Extension staff in three different locations in Indiana. These workshops were sponsored by IPIA, Purdue Cooperative Extension Service, and Epsilon Sigma Phi.

- Staff will be able to participate in another workshop in fall 2004 entitled, "Understanding the Demographic Changes in Indiana." This workshop is geared towards methods and opportunities to reach underserved clientele in Indiana.

- Using IP video, a series of lunch seminars will be provided once per month over the next year throughout the state to discuss international experiences within the Extension system. By using this new and available technology, staff will gain insight and communicate with their colleagues about international activities without ever leaving their desk.

**"In 2005, short-term courses will take students to Brazil, Trinidad/Tobago, Panama, Russia, China, Australia, Italy, Ireland, England, Sweden, Jamaica, and Western Europe."**

## Extension and Outreach *continued*

• The Intercultural Action Committee for Extension has also created a web site, [<http://www.ces.purdue.edu/iace/>] to provide additional international and multicultural resources for Extension staff.

### **Community Learning Centers.**

Through an exciting endeavor with Monterrey Tech University, the Mexican Consulate, and the Indiana Higher Education Telecommunication System (IHETS), four community learning centers will open in early 2005 to serve the continuing edu-

cational needs of Spanish-speaking residents. These four sites will provide an opportunity to pilot test the program before expanding these sites to more locations in Indiana. Spanish-speaking residents will be able to visit these sites and complete Internet-based courses related to computers, health, literacy, families, safety, and business.

**International Conferences.** Purdue Cooperative Extension and IPIA sent two representatives to the European Seminar on Extension

Education held in Eger, Hungary in September 2003. One focal point of this meeting was how entrance into the European Union affected agriculture and extension education. Two representatives traveled to Dublin, Ireland in May 2004, for the Association of International Agriculture and Extension Education. During this meeting, a variety of issues were discussed including private, public/private, and public funding structures of Extension.

**“Numerous efforts were initiated to strengthen the competence and confidence of Extension field staff to work with international aspects of Extension...”**

## News from IPIA

**New Staff in IPIA.** Please join us in welcoming new staff members who joined IPIA during the past year. These individuals include **Barbara Hughes**, who joined the staff in October 2003 to work with study abroad and student exchange programs. In late March 2004, **Corey Kujawa** joined the staff as secretary. She sits near the entrance door to IPIA and is the first person all visitors meet when they arrive here. Then, on April 1, **Kelli Selby** was added to our staff to provide leadership as International Extension Program Coordinator, a new and important direction for IPIA. Please join us in welcoming these three wonderful additions to our staff!

**Good-byes.** With each welcome, there are often “good-byes” to be said. During this year, **Prudie Miller**, exchange program coordinator, left us in August 2003 to work at home with her family. **Janet Schwanke**, secretary and receptionist, left to join the staff in the Foreign Languages and Literatures Department in March 2004. Finally, **Mike Stitsworth**, Associate Director of IPIA and leader of our study abroad programs, left IPIA in June 2004 to take a leadership position in the College of Engineering Development Office. Each of these individuals had served us long and well in their respective positions and we miss them all.

**AGRIDAYS.** A grant from the Indiana Humanities Council and the French American Foundation-Paris supported the initiation of an exchange of agricultural leaders between France and Indiana. Known as AGRIDAYS, this exchange was launched in March 2002 with the visit of four French agricultural leaders to Indiana. A reciprocal visit took a group of 11 Indiana agricultural leaders and their spouses to France in November 2003. In September 2004, another group of French agricultural leaders will arrive in Indiana for AGRIDAYS III. The purposes of this program are to exchange views on issues of common agricultural concern and to strengthen mutual understanding.

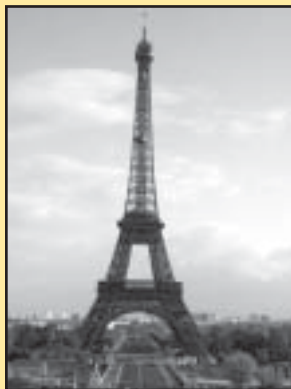
**Global Consortium of Higher Education and Research for Agriculture (GCHERA).** Purdue’s President Martin Jischke, the founding President of GCHERA, joined several faculty and senior administrators from Purdue for the third GCHERA Global Conference in Kiev, Ukraine in September 2003. The conference theme, “Global Reforms in Higher Education and Research: Responding to Challenges to Quality and Safety of Food and Agricultural Products,” drew over 200 participants from more than 50 countries for three days of intense discussion and debate. The purpose of GCHERA is to enhance leader-

ship capacity in higher education and research in agricultural and related sciences.

**Sammons takes temporary assignment in Washington.** David Sammons, Director of the Office of International Programs in Agriculture, has accepted a one to two year assignment in Washington with the U.S. Agency for International Development (USAID). While in Washington, Sammons will serve as “Senior Advisor on University Relations and Agricultural Research, Training, and Outreach” in the Office of Agriculture.

**ICA/NASULGC Collaboration.** The Interuniversity Consortium for Agricultural and Related Sciences in Europe (ICA) and the National Association of State Universities and Land Grant Colleges (NASULGC) met for their sixth annual meeting at the University of Georgia in April 2004. This consortium, of which Purdue Agriculture is a member, seeks to broaden the partnership and cooperation among the member institutions on both sides of the Atlantic. The focus of these meetings has been on student and staff exchange, joint research activities, curriculum development, and distance education.

**IAAS.** Purdue hosted a visit from Martin Nielsen, President of the



The Eiffel Tower in Paris which was site of the Purdue/France Farmer Exchange program known as AGRIDAYS.



## Academic Programs *continued*



A meat market in Toulouse, France which was visited during the AGRIDAYS program.

International Association of Students in Agricultural and Related Sciences (IAAS), in March 2004. His visit served as a catalyst to organize a chapter of the organization on the Purdue campus, something that we hope to do soon. The organization seeks to foster international understanding among students with interests in agricultural and related sciences through discussions, global meetings, and professional development activities.

**Peace Corps.** For several years, Purdue Agriculture has offered a Masters degree program that links to the Peace Corps. The goal of the program is to prepare students to meet special needs for which Peace Corps has difficulty recruiting volunteers. This past year, in discussions that involved the Peace Corps and interested faculty in the School of Agriculture, we have refocused the program to emphasize the development of Extension skills. The program will be housed in our Department of Youth Development and Agricultural Education (YDAE) as a new internationally focused M.S. degree program that will serve both the needs of the Peace Corps and also meet the interests of students with professional goals in international Extension.

**City of Knowledge.** Purdue Agriculture is a key participant in an effort to launch the International Center for Sustainable Development at the City of Knowledge (COK) in Panama. The COK is located on the old U.S. military base in the former Panama Canal Zone, a site that has been turned into a research and education center for the tropical environments in the Americas.

**AGOA.** The Congressionally mandated African Growth and Opportunity Act (AGOA) has resulted in the development of an organization in Washington known as the Partnership to Reduce Hunger in

Africa. Purdue University is a member of this group. The Partnership hosted a group of leaders from several countries in Africa in December and arranged for the group to visit Partnership member institutions. Purdue hosted a senior delegation from Mozambique as part of the effort.

**Woods Thomas Award.** Named in honor of former IPIA Director, D. Woods Thomas, this award goes annually to a graduate student who is pursuing scholarly activities in a developing country. This year the award went to Dr. Kelsi Bracmort, a recent graduate of the Department of Agricultural and Biological Engineering. Kelsi used the award funds to travel to Tunisia to work on a hydrology project with scientists from Purdue and the Tunisian Arid Regions Research Institute.

**ICARDA.** IPIA Director David Sammons is a newly appointed member of the Board of Trustees of the International Center for Agricultural Research in the Dry Areas (ICARDA). This institution, located in Aleppo, Syria, has a mandate for research on dry land crop production, goats and sheep, environmental constraints in the dry regions, and socioeconomic aspects of dry land agriculture. Sammons attended his first Board meeting in April 2004.



Participants in the Purdue-led farmer exchange program (AGRIDAYS) in France.

**“Purdue Agriculture is a key participant in an effort to launch the International Center for Sustainable Development at the City of Knowledge (COK) in Panama”**

## News from the Departments

Much important international activity originates in departments within the School of Agriculture. Sometimes support comes from IPIA for these activities but often interested faculty, with help from their respective departments, will initiate and lead programs independently. Typically, these activities are integrated across the department's missions in learning, discovery, and engagement. Each department has been invited to submit highlights of their recent international activity for inclusion in this publication. A sampling to illustrate the breadth and diversity of departmentally-based international activities follows. For more complete information, contact the departments directly.

### Agricultural Economics

**Sahel.** In 2003 Dr. John Sanders continued his activities for INTSORMIL evaluating the impact of *Striga* resistant sorghums and associated technologies (water harvesting and fertilizer) in Ethiopia. He also led a four country program in the Sahel on marketing and processing sorghum and millet.

**Afghanistan.** Dr. Kevin McNamara was part of a USDA team, headed by Deputy Secretary Jim Moseley, that traveled to Kabul, Afghanistan in April 2004 to determine how USDA might help Afghanistan rebuild its agricultural teaching, research, and extension programs.

**Angola.** In January Dr. Jess Lowenberg-DeBoer traveled to Kunene Province in southern Angola at the invitation of Governor Pedro Mutinde to launch an effort to rebuild Angolan agriculture. A proposal to the Angola USAID mission was developed by Purdue, World Vision Angola, the Angolan Agricultural Research Institute (IIA), and Governor Mutinde's office. Lowenberg-DeBoer also participated in a conference in Luanda on the future of agriculture in Angola in April.

**South Africa.** Dr. Jess Lowenberg-DeBoer presented a seminar entitled "What is the Next Step in Precision Agriculture?" at the University of the Free State (UFS), Bloemfontein, South Africa. While in South Africa he met with farmers, fertilizer retailers, and UFS students working on the economics of site-specific management.

**Morocco.** Dr. Wallace Tyner, Professor of Agricultural Economics, provided economic analysis of the impacts of alternative positions in the Morocco – US Free Trade Agreement negotiations in 2003-04. He served as the lead economic consultant to the Moroccan Ministry of Agriculture throughout the trade negotiations, and had an advisory role in developing the agreement. Trade negotiations concluded in early March 2004. One local benefit of this bilateral trade agreement is the removal of the tariff on corn and soybeans exported from the United States.

**West Africa.** Drs. Philip Abbott and Will Masters headed a project on the impacts of innovations in marketing and trade on small holder cocoa farmers in West Africa. Research has also examined innovations to add traceability to the cocoa supply chain, the impact of privatization on African cocoa sectors, the economics of privatized Fair Trade and foreign aid initiatives, and cocoa policy concerns of West African governments.

**Agricultural Technology and Innovation Policy.** Dr. Will Masters was funded by Columbia University to continue his work on the economics of agricultural research and development, particularly for the development of a mechanism by which foreign-aid donors could reward researchers with cash prizes for successful innovations in tropical agriculture. Development of the institutional foundations for this approach will continue in 2004-05, and could be implemented as early as 2005-06.

**The Pacific Rim.** Dr. Gerald Shively took an international sabbatical this past year with an appointment as Honorary Fellow at the University of Melbourne (Australia) where he worked with colleagues in the Asian Economics Centre. During the sabbatic he continued work on several activities in the Southeast Asian region, including research on small holder coffee and cocoa production in the Central Highlands of Vietnam, work on deforestation and agricultural labor markets in the Philippines, and work on curriculum design at Nong Lam University in Ho Chi Minh City.

**Center for Food and Agricultural Business (CFAB).** The Center for Food and Agricultural Business continues to be highly engaged in international activities. Highlights during the past year include the following:

- *Fundamentals of Marketing*, a global training program designed for USDA foreign marketing personnel based in overseas posts. The over-arching goal of the program was to provide concepts and tools that would assist USDA in accomplishing its strategic plan to expand the global market share of US agricultural exports.
- *Executive Management Development Program for Restaurateurs from China*. This program, operated jointly with the Department of Hospitality and Tourism Management in the School of Consumer and Family Sciences, provided Chinese participants with a professional educational experience in restaurant management.
- *Strategic Perspectives on Agriculture*, designed for agricultural producers of Argentina. This program explored the major trends shaping agriculture, discussed ways that farmers will respond to these changes, and outlined strategies that successful farms will employ to win in this new environment.
- *Technical Training in the Hazard Analysis and Critical Control Point (HACCP) System and Food Safety Programs*, designed for food firms in Colombia and El Salvador. This program combines the strength of the Center's project management skills with the technical expertise of the Department of Food Science.
- *Snack Food Buyers Mission*, a program designed for the "Top Ten" snack food companies from around the world. The purpose of the program, part of an active relationship with the Indiana Department of Commerce, was to focus on the linkages between Purdue's food-related research conducted within the Department of Food Science and food firms in the state.
- *Taiwan Agricultural Goodwill Mission*. This program included technical presentations on grain quality that were set "on location" at a specialized grain farm. The mission culminated with a signing ceremony in the state rotunda between the Taiwan Feed Industry Association and U.S. companies sourcing corn and soybeans from Indiana farms.



## Agricultural and Biological Engineering

**Brazil.** Drs. Mark Morgan and Osvaldo Campanella traveled to Brazil with nine Purdue students to teach a Maymester course “Tropical Agricultural in Brazil.” The course focused on food process engineering. Food companies and two universities were visited. In addition students met with scientists at two research facilities.

**Ecuador.** Dr. Don Jones, in collaboration with Drs. Larry Glickman and Michael Ward from the Department of Veterinary Pathobiology, Purdue School of Veterinary Medicine, continued work on a rural sanitation and health project in Ecuador involving changing attitudes about handling human wastes.

**International water resources collaboration.** Under the leadership of Dr. Rabi Mohtar, the following activities contributed to water resource management in the Middle East and North Africa during the past year:

- “Optimal Siting of Test Wells for Contaminant Characterization in Groundwater” with the American University of Beirut (AUB).

- “Hydrologic Analysis of Dry Marginal Watersheds in North-east Lebanon” with AUB.

- “GIS-Based Watershed Management” with IRA (*Institut des Régions Arides*) in southern Tunisia to address issues of water allocation under shortage conditions.

- Organized a session on Wadi Hydrology in Bhopal, India with Middle East and North Africa partners.

**France.** Dr. Mohtar spent a year at CIRAD, Montpellier, France, working on soil water modeling for non-rigid dual porosity soil medium. He is also networking with major French and European institutions.

## Agronomy

**Brazil.** A Research Project funded by the McKnight Foundation focuses on new approaches for improving phosphorus acquisition and aluminum tolerance of plants in marginal soils in collaboration with EMBRAPA, Brazil. Principal Investigators include Drs. Darrell Schulze, Cliff Johnston, K. Raghothama, Department of Horticulture, and Robert Schaffert, EMBRAPA, an adjunct professor of agronomy.

**International Internship Program.** Dr. Lauren McIntyre mentors an international internship program each summer. Last year a student from Greece participated in a plant breeding project at Purdue.

**Earth Observation MS Program.** The Earth Observation Program, a joint M.S. program between Purdue University and the University of Leuven in Belgium, used the videoconferencing facilities at ITaP to provide the Earth Observation Seminars for students in the second year of their Masters program. All registered students on the Purdue and University of Leuven campus presented their research.

**Ethiopia.** Drs. Craig Beyrouy and Randy Woodson reviewed the INTSORMIL, **Horn of Africa** program, and the ongoing *Striga* research program of Dr. Gebisa Ejeta.

**Panama.** Dr. Jim Vorst is serving on the organizing committee for the International Center for Sustainable Development (CIDES) in Panama City. At the inaugural meetings in September he addressed the assembly on *The International Projection of CIDES: Interdisciplinary collaboration in research, education, and information management*.

**Costa Rica.** Dr. Scott Jackson continues to coordinate a Genetics program at CATIE in Costa Rica with Drs. Jeanne Romero-Severson (University of Notre Dame) and Jeff Stuart (Entomology).

**International Sabbatical.** Dr. Eileen Kladvko spent part of her sabbatical leave in Australia and New Zealand in July through October.

## Animal Sciences

**Bulgaria.** Dr. Schutz was a key participant in a training workshop for dairy producers sponsored in part by USAID and hosted by the US Center for Excellence in Education and Bulgaria's Sts. Cyril and Methodius Foundation. The workshop was aimed at sharing US dairy technologies to help Bulgarian dairy farmers become more efficient.

**Canada.** Dr. Bill Muir traveled to Ottawa, Canada to participate in a swine breeders short course hosted by the Canadian Center for Swine Improvement: QTL Mapping and Marker Assisted Selection. He also traveled to Vancouver, British Columbia to participate in the *Experts Meeting on Assessment of Environmental and Indirect Human Health Effects of Genetically Modified Aquatic Organisms workshop*. Dr. John Patterson traveled to Banff, Canada to present

an invited talk to the 9th International Symposium on Digestive Physiology in Pigs. Dr. Allan Schinckel is working with a Canadian independent seed stock supplier on the use of individual electronic feed recording systems to evaluate feed intake patterns of Duroc boars.

**China.** Dr. John Forrest spent three weeks in a developing area of northeastern China at the invitation of the Expert Bureau of Liaoning Province. He assisted a newly established private integrated Pork Production and Processing Company in applying modern production and processing technology, as well as developing a higher level of health and food safety standards. Drs. Dave Gerrard, Alan Grant, and Mr. Quinghai Guo visited with faculty and administrators at four different universities to discuss the

## Animal Sciences *continued*

development of research and graduate education collaborations. Universities visited included China Agricultural University (Beijing), Central China University (Wuhan), Nanjing University (Nanjing), and University of South China (Guangzhou). Dr. Bud Harmon led a group of scientists in conducting swine nutrition and management schools in six cities in China over a three-week period during September 2003. Dr. Harmon also led a group which conducted High Performance Swine Production schools in six cities in China in April 2004.

**Finland.** In August 2003, Dr. Bill Muir taught a Nordic Intensive Course on Quantitative and Molecular Genetics in Helsinki, which included 45 students from seven countries.

**United Kingdom.** Dr. Bill Muir traveled to Bristol, England to present an invited lecture at the 27th World Poultry Science Symposium on *The Welfare of Laying Hens*.

**Ireland.** Dr. Matt Claeys was responsible for an Irish student interested in beef production and quality determination utilizing the USDA grading system. The student spent three months at Purdue and assisted with Research and Extension programs.

**Italy.** Dr. Allan Schinckel presented an invited talk at the EAAP meeting in Rome on modeling effects of the environment on pig compositional growth.

**Mexico.** Dr. Mike Spurlock returned to the National Autonomous University of Mexico (UNAM) and the National Institute of Nutrition and Medicine in Mexico City to continue his collaboration with Dr. Rogelio Alonso Morales to characterize the obesity and insulin sensitivity in the Mexican Pellon and Yucatan pig models.

**Netherlands.** Dr. John Patterson hosted Dr. Hans Schiere from The Netherlands for discussions on developing workshops on sustainable agriculture.

**Philippines.** Dr. Geraldine Sanchez joined the laboratory of Dr. Rebecca Krisher from September 2003 until March 2004 as a visiting scientist. Dr. Sanchez is the Chair of the Department of Veterinary Medicine at Pampanga Agricultural College in the Philippines. While in Dr. Krisher's laboratory, Dr. Sanchez learned the techniques of *in vitro* embryo production.

**Poland.** Dr. Bud Harmon presented a lecture on swine management and biosecurity at a European Swine Research Conference in Pulawy.

**South Africa.** Dr. Todd Applegate was part of the Indiana Agricultural Leadership delegation that toured South African agriculture industries during February and March 2004.

**Taiwan.** Dr. Bud Harmon, working with the Great Wall Feed Company in Taiwan, conducted lectures for swine producers and advised the company on swine feeding products and programs.

**Thailand.** Dr. Bill Muir hosted Wansuk Senanan as the international partner in a USDA Grant "Thailand Transgenic Fish and Biodiversity Project: Risk Assessment Research and Capacity Building." Wansuk is a faculty member at the Department of Aquatic Sciences at Burapha University in Thailand.

**Turkey.** Dr. Todd Applegate gave a talk on Vitamin D<sub>3</sub> and D<sub>3</sub> metabolites in poultry feeding programs during a nutrition satellite symposium of the XXII World Poultry Congress in Istanbul.

**Vietnam.** Allan Schinckel spent two days with Vietnamese government officials visiting Purdue discussing the development and application of swine genetic improvement programs (STAGES).

## Biochemistry

**Sweden.** Dr. Henry Weiner served as a Ph.D. thesis examiner for a student in the Department of Medical Biochemistry and Biophysics, Karolinska Institute, Stockholm.

**China.** Dr. Ronald Somerville completed a three year appointment as a Guest Professor at Shanghai Jiaotong University. During his visits Dr. Somerville lectured on a wide range of subjects including gene regulation, genome annotation, and biotechnology.

**Mexico.** In the fall of 2003 Dr. David Krogmann taught a course entitled "How to Write a Scientific Paper in English" at the Metropolitana Universidad, a public university in Mexico City. The course was so successful that it will be taught again at Universidad Nacional Autonoma de Mexico with enrollment limited to twenty-five students.

## Botany and Plant Pathology

**Brazil.** Drs. Ray Martyn and Scott Abney from the Department of Botany and Plant Pathology attended the VII World Soybean Research Conference in Foz do Iguacu, Brazil. This international conference, held every five years, is the largest conference in the world related to soybeans.

**France.** Lauren Greig, a sophomore in the environmental plant studies major, spent spring break at the Chateau de Matel in Roanne, a mandatory trip for students enrolled in French 380G, "French Gastronomy: French Culture through Cooking." The class blended language instruction with the study of French cooking and its role in French life.

## Entomology

**Global Activities.** Dr. Bob O'Neil led a workshop on Risk Assessment in biological control at the USDA European Biological Control Laboratory in Montpellier, **France**. His graduate student, Kris Wyckhuys, finished his research on the

adoption of integrated pest management practices by local farmers in **Honduras**. Bob also served as co-leader of a Maymester course on Current Culture in **Cuba**. Dr. Chris Oseto was a co-leader of a Maymester course on Agroecology in **Costa Rica**.

## Food Science

**New Zealand.** Dr. Rich Linton organized and was a presenter for two, two-day international workshops on food safety: Critical Control Points for Food Safety, and International Food Safety and Security Challenges. Dr. Phil Nelson took a six-month sabbatical in New Zealand, observing their food import and export practices.

**China.** Dr. Phil Nelson traveled to China where he was the Keynote Speaker for the 5<sup>th</sup> International Food Science and Technology Conference. Dr. Li-Fu Chen traveled to China twice to initiate a collaborative research effort with the China Science Academy and Zhejiang University in Hangzhou on food safety issues. He also is working with a company in Beijing on an alternative process for ethanol production.

**Ireland.** Dr. Kirby Hayes traveled to Ireland over spring break as leader of a new study abroad short course. The course visited food companies as well as the University College Dublin.

**Ethiopia.** Dr. Bruce Hamaker traveled to Ethiopia with the International Sorghum and Millet CRSP (INTSORMIL). His INTSORMIL research is addressing sorghum and its rate of digestibility.

**Sweden.** Dr. Jay Marks was a trainer at the FDA-approved Better Process Control School in October, 2003.

**Brazil.** Dr. Mark Morgan traveled to Brazil as co-leader of a Maymester program. See entry under Agricultural and Biological Engineering for details.

**Pacific Rim.** Dr. James BeMiller led an effort to strengthen departmental ties in the Pacific Rim during the past year. He was an invited speaker at the International Plant Polysaccharide Workshop in Australia. He also attended the International Carbohydrate Symposium in Australia as the official representative of the United States to the International Carbohydrate Organization. In addition, Dr. BeMiller was an invited speaker at the Korean Institute of Food Science and Technology and at two Korean food companies. He represented Purdue in forging an agreement on academic exchange between Purdue University and the Graduate School of Biotechnology, Korea University. He also lectured in Taiwan at National Taiwan University and at Providence University. Finally, in China he visited the Food Industry Research and Development Institute, the China Grain Products Research and Development Institute, and the Institute of Chemistry (*Academia Sinica*).

**India.** Dr. Arun Bhunia initiated a collaborative research activity with a professor at the Central Food Technological Research Institute (CFTRI), Mysore, on distribution patterns of genotypes of *Listeria Monocytogenes*. He also presented a seminar at the Indian Institute of Technology (IIT), Kharagpur, on nanotechnology in food borne pathogen detection. In addition, Dr. Bhunia presented a seminar at West Bengal University, Calcutta, on animal and food borne pathogens and their impact on human health.

## Forestry and Natural Resources

**Campus International Programs.** Dr. Andrew Gillespie is the Associate Dean of International Programs (50 percent time) with significant responsibilities in advancing the international agenda at the campus level.

**Costa Rica.** A student exchange agreement is being implemented between the School of Agriculture, Purdue University and Centro Agronomico Tropical de Investigacion y Enseñanza (CATIE), headquartered in Turrialba, Costa Rica. Purdue University faculty

have taught courses at CATIE and several students have taken courses there. This was also the destination for a Maymester course this year.

**Sweden.** The joint Purdue University-Swedish University of Agricultural Sciences (SLU)-North Carolina State University Natural Resources Summer Education Program is being conducted for the ninth consecutive year. This year the program is being conducted in Mexico in the Yucatan Peninsula.

## Horticulture and Landscape Architecture

**Germany & Switzerland.** In conjunction with researchers at the Universities of Tuebingen and Freiburg in Germany and the University of Zurich, Switzerland, an annual

workshop to present in-progress research on plant ATP binding cassette (ABC) membrane transporters has been organized. Funding for participation in the workshops for Purdue faculty



## Horticulture and Landscape Architecture *continued*

and students was obtained from the National Science Foundation. The first workshop was held at the University of Tuebingen in August, 2003. A second workshop is scheduled for Zurich, Switzerland in October, 2004. In addition to the workshops, exchanges of students from Purdue and the European institutions are part of the program.

**Pan American Plant Biology Workshop.** The International Plant Membrane Biology Workshop is held every three years. In an effort to expand the workshop for graduate students, postdoctoral researchers, and researchers from developing countries, a plan was developed to organize a Pan American Plant Membrane Biology workshop to be held the year before each international meeting. The first Pan American meeting was held in Cuernavaca, Mexico in May, 2003. A second workshop is planned for a site to be chosen in Texas in May, 2006. Dr. Angus Murphy is the chair of the organizing committee.

**United Kingdom.** Drs. Paul Siciliano and Mike Dana (with John Larson of History) team taught a

study abroad course entitled "In the English Landscape." This four-week interdisciplinary course covers 400 years of English history, gardens, and garden design. Over 30 Purdue students participated in this second offering of the course. The course is centered in Corsham Court England with trips to a variety of sites throughout England.

**Germany.** Natalia Dudareva studied in Germany for an extended period at the Max-Planck Institute for Chemical Ecology in Jena, Germany. Her stay was funded through an award from the German Academic Exchange Service.

**Italy.** Jules Janick was on sabbatical in Italy on a Fulbright Fellowship in spring 2004.

**India.** Drs. K. G. Raghothama, Avtar Handa, Peter Goldsbrough, Kathryn Orvis, and David Salt of HLA along with Marshall Martin and David Sammons received funding from USAID for a US-India University Partnership to investigate improving nutritional quality of food by biotechnology approaches.

## Youth Development and Agricultural Education

**J**apan. Purdue University's Department of Youth Development and Agricultural Education hosted six year-long Japanese high school exchange students this year. The students (five girls and one boy) were part of the Japan-based LEX and LABO programs. The teenagers were scattered throughout the state, from the southwestern area to the very north. Students excelled in many fields, but this particular group seemed to have a lot of musical talent, with prestigious awards given to several of the students.

**LABO INBOUND AND OUTBOUND 2003.** Twenty-nine Japanese youth ranging in age from 12 to 18 spent four weeks in Indiana as part of the LABO Summer Inbound Program. The purpose of this 4-H based International Exchange Program is to provide a "glimpse" into the everyday life of American families while developing lasting friendships and

warm memories. While the Japanese youth are learning about and experiencing America's culture, two American students and one chaperone were learning about the Japanese way-of-life during a four week reciprocal stay in Japan.

**China.** Dr. Mary Pilat was one of 50 U.S. delegates at the China—U.S. Women's Leadership Conference held in Beijing in May where she presented a paper on her work in rural Uzbekistan.

**Europe.** Dr. Mary Pilat presented a paper at the World Health Organization Conference on Safe Communities in Prague entitled "Engaging Youth in the Creation of Safe Communities" and also presented a poster at the World Health Organization Conference in Vienna on Injury & Violation Prevention.

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It is the policy of the Purdue University International Programs in Agriculture that all persons shall have equal opportunity and access to the programs and facilities without regard to race, color, sex, religion, national origin, age, marital status, parental status, sexual orientation, or disability.

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