Issue No. 8, Fall 2011

Horticulture Alumni Newsletter

Department of Horticulture
College of Agricultural Sciences

Inside this issue:

Message from the Department Head

A Time of Transition

The past year has been a bit chaotic and many of you may be aware that great changes are about to occur within the College of Agricultural Sciences (CAS) that will impact the Department of Horticulture and our programs. In this message I will try to provide some background and explain some of the important implications for the future of our department. More than a year ago we were aware that the provost had commissioned a "Core Council", a committee with representatives from each college, to evaluate the organization of each college and to recommend potential restructuring to improve efficiency. Between last fall and spring, the Provost sent letters to each college with recommendations for restructuring. The recommendations were probably more drastic for the CAS than for most colleges because our funding is different. The budget to run most of the university comes primarily from tuition and a small portion comes from the state. Most of the research activities are supported with grants and contracts. The CAS has a more complicated funding structure. We receive some tuition money to support our teaching programs, but in addition to grants and contracts, research and extension are funded by federal, state and county appropriations. When the university's funding is cut, increases in tuition can partially compensate for the cuts, but the CAS has no way to generate additional revenue for research and extension. So for the CAS, funding cuts result in reducing the number of employees. It is likely that the Core Council's recommendations for restructuring the College involved preparation for a gradual downsizing of the College in anticipation of reduced public support.

In November The CAS received its letter from the provost with recommendations for restructuring the College. The primary recommendation was to reduce the number of academic departments from 12 to "6 or so". In anticipation of the restructuring proposal, Dean McPheron initiated a process called Ag Futures. You can learn about all the details of this process at http://agsci.psu.edu/ag-futures. The Dean appointed a group of college leaders, with representation from all three missions of the College as well as some industry representatives, to attend a series of all-day meetings to discuss important issues facing the College and to make recommendations on how the College should serve our students and the Commonwealth in the future. After receiving recommendations from the Core Council, Dean McPheron appointed 6 teams, with representatives from all 12 academic departments and Cooperative Extension, to make recommendations about reducing the number of departments. These teams met several times and did quite a bit of work between meetings and each presented their recommendations at an all-day meeting in March. The Dean considered these recommendations while developing a plan that he proposal to the Provost. The proposal involves reducing the number of academic departments to nine, centralizing some of the administrative services within the College, centralizing the administration of farms and greenhouses, and restructuring state-wide programming for Extension. The proposal for restructuring will be presented to a couple of Faculty Senate committees early this fall for consideration, and then it must be approved by the Board of Trustees before becoming final. Few major changes will occur before official approval.

The restructuring plan will have major implications for the Department of Horticulture. The Department of Horticulture will be merged with the Agronomists and the new department will likely be called "Plant Sciences".

—Continued on next page—

Message from the Department Head (Continued)

Many details will have to be worked out during the next couple of years, such as departmental governance and weather some or the entire faculty and staff will be physically moved. The Landscape Contracting and Turf majors will remain intact in this new department but the Agroecology and Horticulture majors will be combined into a 'Plant Science" major with several options. Details are still being worked out, so the name(s) may change. We anticipate that our curriculum will change little for the Horticulture option, so students will still have access to one of the more comprehensive set of horticulture courses in the country. At the same time, Penn State Extension is also being restructured. Details are still being worked out, but it is likely that most counties will be served by educators working out of their home county offices, but they will be serving several counties. In the past, hiring priorities were set at the regional level or even at the county level with little consideration for state-wide programming. The new Extension system will emphasize state-wide programming and the specialists on campus will provide leadership for those programs. As a former Extension specialist, I endorse this new system and I think it is the only way we can continue to serve our stakeholders around the state as we lose positions. Most people don't like change, but this change may provide some opportunities to strengthen our undergraduate and graduate curriculum, we may be able to develop new minors such as a minor in organic crop production, and we may be able to identify some new areas of research, especially involving the county educators. As we move forward you will be able to monitor our progress by visiting the College website at http://agsci.psu.edu/.

I hope you enjoy our newsletter. We have tried to summarize our primary activities in teaching, extension and research, so you will know what we are doing. Please see the section on "Alumni News" at the end of the newsletter and let us know what you are doing.

The Penn State Horticulture Trial Gardens

Many alumni may remember the Penn State Flower Gardens on the University Park campus. The flower gardens were a popular spot for State College residents to stroll through on summer evenings and for football fans to visit on fall weekends. The first garden was opened in 1933 and soon became the test site for the All-American Selections. A second trial was started at the Southeast Agricultural Research & Extension Center, also known as the "Landisville Research Center", in Manheim, Lancaster County. During the past decade the trials have been consolidated at Landisville and the flower trial is considered one of the top three trials in the country, providing information on new flower cultivars for the northeast and mid-Atlantic regions of the country. Mr. Alan Michaels, floriculture extension educator in Dauphin County, coordinates the gardens with the help of over 100 Master Gardener volunteers. Alan currently evaluates about 1,400 cultivars. Rooted cuttings are obtained in the early spring and grown in the greenhouse in 4" pots. In late May the plants are transplanted into 12" pots with soilless media and placed outside on landscape fabric with trickle irrigation. Most plants are grown in full sun, but some plants, such as impatiens, are grown in both full sun and 42% shade. The trial is visited by more than 1,200 people from all over the world each year, including people associated with seed companies, plant wholesalers and retailers, and home gardeners. Alan will retire at the end of the year and plans are being developed to continue the trials into the future. We wish Alan health and happiness in retirement. To learn more about the flower trials, visit http://trialgardenpsu.com.

HORT SHOW 2011 WILL BE HELD ON OCTOBER 15 AND 16.

HOPE TO SEE YOU THERE!

Klinedinst Earns Certification From Rutgers

Bradley Klinedinst

HUNT VALLEY, MD – MAY 25, 2011 – Bradley Klinedinst, Project Manager at Stormwater Maintenance, LLC, recently received his certification in Pond Design, Management and Maintenance from Rutgers Agricultural Experiment Station Office of Continuing Professional Education. In his role as Project Manager, Bradley is responsible for client communications, estimating and bidding, assisting the Vice President of Field Operations with project coordination and scheduling, and managing select projects in the field as needed.

A resident of York, PA, Mr. Klinedinst has 8 years of experience in stormwater and landscape related industries.

Bradley received his Bachelors of Science degree in Landscape Contracting, with an emphasis on Design/Build, from Penn State University. He is affiliated with the Professional Landscape Network (PLANET) and various Penn State University Alumni associations, including the Penn State University Landscape Contracting Alumni Association.

Stormwater Maintenance LLC is an industry leader in providing inspection, maintenance, and repair services for stormwater and drainage systems. Their more than twenty years of experience encompasses in-house engineering, maintenance and full construction capabilities for organizations who own or are responsible for managing properties that have stormwater management facilities or drainage infrastructure. To obtain additional information, including an overview of Stormwater Maintenance's capabilities and completed projects, visit www.swmaintenance.com.

Holly Shimizu selected as an Outstanding Alumni of the College of Agricultural Sciences

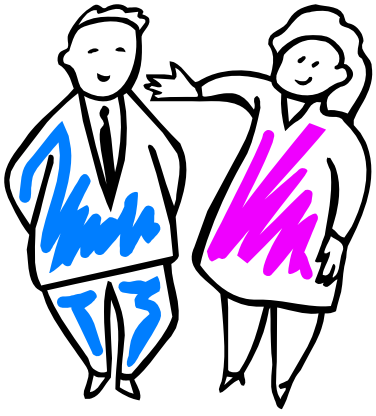
Holly Shimizu ('76 B.S., Horticulture) was selected by the College of Agricultural Sciences Alumni Society as a 2010 Outstanding Alumni. Holly is the Executive Director of the United States Botanic Garden, located on the grounds of the United States Capitol on Nation's Mall in Washington, D.C. The Botanic Garden was created in 1932 and consists of a Conservatory and Bartholdi Park, and maintains about 26,000 plants used for exhibition, study, and exchange with other institutions. Holly visited campus to receive her award from Dean McPheron on October 1, 2010. While on campus she met with the Director of the Arboretum at Penn State and she gave a seminar to the department about her role as Director of the Botanic Garden.

New Faces and Retirements In the Department

-New Faces-

Peter Lucas was hired in January 2011 as a Research Assistant in Dr. Majid Foolad's lab.

Johan Prinsloo was hired in July 2011 as a Research Technologist/Field Station Manager for Dr. Jonathan Lynch.



-Retirements-

Paige Thomas retired from the department in June 2011. She was the department's academic advisor and was involved in the department for 25+ years.

Commencement—Fall 2010, Spring and Summer 2011

HORTICULTURE (B.S. DEGREE)—FALL 2010

Owen Bellis
Kristin Shust

LANDSCAPE CONTRACTING (B.S. DEGREE)—FALL 2010

Jon Aldridge
Kyle Atkins
Lewis Buckley
Andrew Childs
June Cunningham
John Dubich
John Durkin
Clayton Ellenberger
Keith Goldovich
Kevin Kindig
Scott Lesak
Rhonda Patrick
Jordan Reitz
Michael Riefner
Philip Smith
Chad Sterkenburg
Dustin Stoner
Michael Tominus
Colin Watson

HORTICULTURE (B.S. DEGREE)—SPRING 2011

Shaun Callahan
Austin Edling
Mark Lasich
Nicholas Loew
Rebecca Campbell Moss
Joseph Noll
Kristin Prommel
Karl Quimby

LANDSCAPE CONTRACTING (B.S. DEGREE)—SPRING 2011

Austin Bixler
Melissa Blake
Christopher Brett
Emma Childs
Whitney Crater
Sarah Cruikshank
Sarah Dickert
Katie Fagan
Colin Klutch
Salvador Mendez
Luca Montana
Michael Przybyla
Alison Roch
Daniel Saunders
Jacob Schrom
Nicholas Steffan
Kenneth Steich

HORTICULTURE (M.AGR. DEGREE)—SPRING 2011

Daniel Frechen

HORTICULTURE (M.S. DEGREE)—SPRING 2011

Amy Chamberlain

HORTICULTURE (PH.D. DEGREE)—SPRING 2011

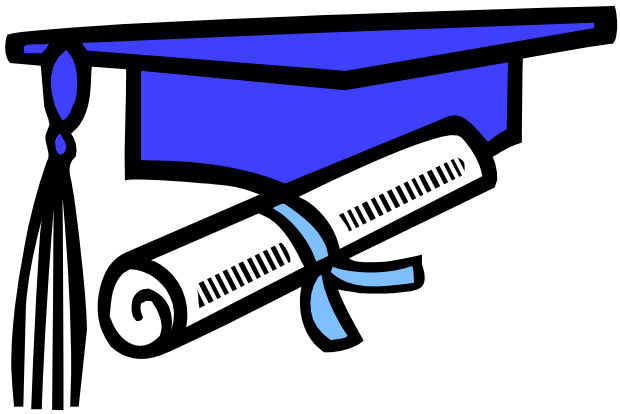
Raul Jarmillo

HORTICULTURE (B.S. DEGREE)—SUMMER 2011

Zachary Scott

LANDSCAPE CONTRACTING (B.S. DEGREE)—SUMMER 2011

Michael Coccia
Jeff Santoleri



Landscape Contracting 2010 Fall Field Trip

Twenty-six students and five faculty members participated in the 2010 edition of the annual Landscape Contracting Fall Field Trip. The group benefited from a wealth of horticultural enterprises and public gardens located in southeastern Pennsylvania and northern Delaware. The first stop was at Terrain at Styers, an upscale retail center and landscape design/build company located in Concordville, PA. Formerly the J. Franklin Styer Nursery, Terrain is now owned by retail innovator Urban Outfitters. Students were impressed with the high-end merchandise and unique marketing techniques employed throughout the site. Zach Hammaker (LSCPE 2007) talked in detail about his responsibilities and accomplishments as an estimator/designer at Terrain.

The group then traveled to Delaware to visit the Mt. Cuba Center. This non-profit organization is dedicated to research and education focused on native plants of the Allegheny Plateau. Tours were led by horticulturists, and area gardeners provided insight into their duties and responsibilities.

The final stop of the day was at the Delaware Horticulture Center in Wilmington, where our visit was hosted by Ruppert Landscape. Company partners Mike Monde and Jay Long discussed the financial management of their company, and shared spreadsheets, strategic plans, and operating manuals.

Following an overnight stay back in Concordville, the group visited residential sites in Bryn Mawr and Wynnewood as guests of John Shandra (LSCPE 1996), landscape architect at Gale Nurseries. The first site included two houses and an impressive display of outdoor sculpture. Students were drawn to a terrace with water features and highly detailed hardscape work. The second site was a newer house with pool, walls, and extensive planting. The scope of work and level of detail on these impressive landscapes inspired all members of the group.

An overview of specialty nursery production operations and landscape contracting processes was presented by three generations of the Wells family, owners of W. D. Wells & Associates in West Grove, PA. Bill Wells encouraged students to develop a broad spectrum of skills. Alex Wells (LSCPE 2008) described his experiences in graduate school at the University of Colorado and his future plans.

No trip to southeastern Pennsylvania would be complete without a visit to Longwood Gardens. Although the three-hour time allotment was not enough to experience everything, students and faculty enjoyed viewing a myriad of horticultural displays. Education Director Douglas Needham accompanied the group and provided behind-the-scenes information, while intern Dave Mattern (LSCPE 2010) spoke about his program and the learning opportunities to which he has been exposed.

The annual Fall Field Trip is designed to introduce students to a variety of landscape businesses and public gardens. Learning is continuous as lively discussions fill the time between stops. It is an excellent opportunity for students, faculty, and the green industry representatives to interact outside the walls of Tyson Building. Joining students on the 2010 Fall Field Trip were faculty members Kathy Kelley, Martin McGann, Mike Mohney, Jim Sellmer, and Dan Stearns.

Above: Longwood Gardens intern David Mattern (LSCPE 2010) tending plants in the conservatory.

On left: Students explore a residential project site designed and installed by Gale Nurseries

On right: View of native plant gardens at Mt. Cuba Center

International News

Penn Staters Help Sequence the Cacao Genone

Last fall a paper appeared in the journal, Nature Genetics (http://precedings.nature.com/documents/4908/version/1), describing the sequencing of the DNA of a Cacao, produced by the Theobroma cacao tree. Cacao seeds are processed into cocoa beans that are the source of cocoa, cocoa butter and chocolate. Cocoa was domesticated by the Maya about 3,000 years ago in Central America, and the variety sequenced, 'Criollo', is one of the oldest cocoa varieties. Today 'Criollo' accounts for only about 5% of the world production because most growers prefer to grow hybrids that are more productive and more disease tolerant, but with lower quality. About 40% of the cocoa crop is lost to fungal infection each year.

The genome was sequenced by a team of researchers from 19 institutions and Dr. Mark Guiltinan from the Horticulture Department at Penn State was one of the lead scientists. Dr. Siela Maximova, an associate professor in the Horticulture Department and five other graduate students and faculty members from several departments at Penn State, were also members of the research team. A large amount of information was generated by this project. A number of gene families were identified that may lead to genetic improvements of the crop through enhanced pest resistance or productivity. The analysis of the genome uncovered the genetic basis of pathways leading to the most important quality traits of chocolate, such as oil, flavonoid and terpene biosynthesis. Hundreds of genes were discovered that may be used to accelerate the development of elite varieties of cacao in the future. Eighty-four percent of the genome was assembled and 28,798 genes were identified that code for proteins. Eighty-two percent of these protein-coding genes were linked to one of the 10 chromosomes. The research identified two types of disease resistance and they found genes that code for the production of cocoa butter, a substance valuable in making chocolate, confectionary, pharmaceuticals and cosmetics. Most cacao beans contain about 50% fat, but these 84 genes control the amounts and the quality of the cocoa butter. Other genes were found that influence the synthesis of flavonoids, antioxidants, hormones, pigments and aromas. If these genes can be altered, new varieties may be developed with improved flavors, aromas and more health benefits. The information from this project can be used by classical breeders to develop new varieties with enhanced yields and quality and with improved disease resistance. Learn more about Cocoa research in the Department of Horticulture at http://guiltinanlab.cas.psu.edu/.

Arbor Day at the Arboretum at Penn State

On April 29, 2011 Mike Mohney and Jim Savage, from the Horticulture Department, spent some time with 300 fourth-graders to teach them about the importance of trees and their various roles in the ecosystem, including pollination, tree identification and planting. The event was part of an outreach effort sponsored by the Arboretum at Penn State and members of the College of Education, and the College of Agricultural Sciences. The students were involved in a number of hands-on activities including using iPads to determine what type of tree they were planting and they used cameras on the iPads and iPods, along with a Microsoft Tag Reader app, to access additional information, characteristics, and photos of the trees. Other learning stations at the event included Tree Climbing, Historical Reenactment, Arborist Crew, Watershed Conservation, Reptiles, Pollinator Demonstration, Tree-Ring Demonstration, Pressed-Flower Bookmarkers, and Tree Planting.

Landscape contracting instructor, Mike Mohney, shows elementary school children how to use an iPad to look up information about trees.

The Cellar Market Continues to Grow!

By Jennifer Landry, High Tunnel/ Cellar Market Manager

One of the most common remarks I hear from people is "There's a vegetable market on campus?!, I had no idea." Well, yes, there is and it's been in existence for about 8 yrs. It hasn't always been as large as it currently is, but we get a little bigger and better with every passing year. We're located on the University Park campus across the street from Eisenhower auditorium on Eisenhower Rd. in the Vegetable Cellar- you can look for our signs on market day. The market runs from May-November and the hours of operation change with the season. Currently, during the months of August and September, the Cellar Market is open Wednesday and Thursday from 12-5pm. Hours change in October and November to Wednesday from 12-2pm.

The selection available at the market consists of produce grown at the Penn State Horticulture Farm, Russell E. Larson Agricultural Research Center in Rock Springs. At this time you can see tomatoes, peppers, cantaloupe, celery, potatoes, husk cherries, okra, and so much more! The produce comes from many sources at the research center. The majority of the items are produced at the Center for Plasticulture's High Tunnel Research and Education Facility. The inventory is supplemented with apples from the orchards; we also glean berries, pumpkins, and other miscellaneous vegetables from other research fields on the farm.

I believe the greatest aspect of the Cellar Market and the High Tunnel Facility is the fact that much of the crops are produced by the faces you see at the market, which aside from myself, are mostly students or interns that are interested in learning to grow and market vegetables, fruit, flowers, and herbs. I spend much of the spring and early summer teaching our fresh staff how to use hand hoes, decipher weeds from the crop, setting up drip irrigation systems, how to operate a tractor, and the ins and outs of using high tunnels. The high tunnels allow us to extend our growing season, and to produce the high quality and high flavor crops you see at the Cellar Market. At this time our crew is fully trained and is collecting harvest data for our research projects, and managing the crops and high tunnel maintenance of their assigned tunnels. They'll leave here at the end of the summer with a new set of skills, lots of hands on experience, and a better understanding of what it takes to produce and market horticultural crops on a small scale.

Our customer base consists mostly of university faculty and staff members during the summer and once school starts up again in the fall we see many more students. However, non-university affiliated customers also patronize our market. We are extremely grateful to all of those that shop with us and help support our research and teaching mission, we couldn't do it without them.

For more information about the Center for Plasticulture's research or the Cellar Market visit our website: http://extension.psu.edu/plasticulture or contact me at: jll1016@psu.edu

New Fruit Pest Found in Pennsylvania

UNIVERSITY PARK, Pa. - As Penn State researchers warned earlier this year, a new pest of grapes, berries, and tree fruit has made its way into Pennsylvania fruit orchards.

Spotted Wing Drosophila (SWD) was confirmed last month in Adams County by researchers from Penn State and the Pennsylvania Department of Agriculture. SWD is a small vinegar fly with the potential to damage many fruit crops, reports Dr. David Biddinger, entomologist at the Penn State Fruit Research and Extension Center. "The greatest potential for damage is probably to the many types of berry crops. " SWD has also been found in New Jersey as well as several states to the south and west of Pennsylvania. Late season fruit crops such as blackberries, fall raspberries, blueberries and grapes are the crops of most concern in Pennsylvania, though any thin-skinned fruit can be affected.

Native to Southeast Asia, the fly was first detected in the western United States in 2008 and discovered on the east coast in Florida on strawberries in spring of 2010. "Unlike other vinegar flies that target damaged or overripe fruit, SWD females will attack any soft-skinned healthy fruit to lay its eggs," Biddinger explains.

Biddinger says that because the flies are only a few millimeters long and cannot fly very far, human-assisted transport is the most likely cause of the recent rapid spread. "It is important for growers to be able to identify the pest and to learn about monitoring and management of SWD," says Biddinger. Identification of the adults is difficult because of their small size and several similar characteristics of other vinegar flies in our region, including Scaptomyza sp., which are common in commercial plantings in Pennsylvania. The SWD is approximately two to three mm long with yellow-brown bodies and red eyes. Adult males have two distinctive dots on the wings and brown bands on the abdomen. The females look similar but do not have the wing dots or bands and have large, saw-like ovipositor for inserting eggs into fruit. SWD larvae are white, without a distinctive head and easier to detect against darker fruit, such as cherries.

Identification of SWD should be confirmed by experts. Sven Spichiger, entomology program manager at the Pennsylvania Department of Agriculture, and his staff will be able to assist with proper identifications. Adults thrive at cool temperatures in the spring and fall, but growth and reproduction are greatly slowed during hot summer weather. Females live two to nine weeks, lay two to three eggs per fruit and can lay more than 300 eggs total, showing high potential for large-spread fruit infestation if not controlled.

During egg-laying, rot and fungal diseases can also affect the fruit, further contaminating the fruit at harvest. Infected fruit are difficult for growers to detect, since the only symptoms at first seem to be a small pin-prick from egg-laying, turning into small scars and indented soft spots and bruises before the fruit eventually collapses from the internal feeding of the larvae or disease. Dr. Greg Krawczyk, Penn State Extension Tree Fruit Entomologist and Kathy Demchak, Penn State Senior Extension Associate in Horticulture, suggest growers use integrated pest management (IPM) methods of monitoring using baits and traps suggested at http://extension.psu.edu/ipm/agriculture/fruits/spotted-wing-drosophila. Control methods are crop specific. Recommendations can be found in newsletter articles appearing in Penn State's "Fruit Times Newsletter" (http://extension.psu.edu/fruit-times) and "Vegetable and Small Fruit Gazette" (http://extension.psu.edu/vegetable-fruit/newsletter), and will be incorporated into other print and online guides. It is not expected that the current level of infestation will require a special treatment(s) against SWD, although if needed, effective tools are available for the control of this pest. Regardless of the crop, control of this pest will be dependent controlling the flies before they lay eggs and sanitation of infested or left over fruit on the crop. Insecticides labeled for use on specific crops may list fruit flies as pests they control, but generally these will mean fruit flies of another family such as apple maggot, cherry fruit flies and blueberry maggot. Many of the currently registered insecticides labeled for these other fruit flies should also control SWD, but care must be taken to stay within the pre-harvest limitations of the pesticide used.

For more information on SWD, visit http://extension.psu.edu/ipm/agriculture/fruits/spotted-wing-drosophila or http://sites.google.com/site/spottedwingdrosophila/._ Growers can also contact their local horticultural extension agent or entomologist for further information. __

The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and urban situations. For more information, contact the program at (814) 865-2839, or Web site at http://paipm.cas.psu.edu to access the program's blog, Twitter and Facebook pages.

Ann Bond (HORT 2002) Helps Residents Cope with Loved Ones' Absence with Community Garden

By Seth Robbins
Stars and Stripes

BAUMHOLDER, Germany -- Angela Graves and Gina Smith leaned against their shovels, pausing to survey the plot that they hoped would one day be their new garden.
After spending several long and hard hours digging, they were now left with a rectangular patch of bare earth.
"It's going to need some work," said Smith. "But this is how love starts."
Smith wasn't just talking about the garden, but the new friendship that had grown. Graves, 40, of Philadelphia, had just moved to the U.S. Army garrison, and Smith, 28, was helping her acclimate to the post as her sponsor.
The pair, whose husbands are both deployed to Afghanistan, were meeting for the first time. Soon after, they decided to work a garden plot together in a new community garden, situated on a patch of land in Wetzel Housing Area.
They are among nearly a dozen Baumholder residents, who have staked claims in the community garden.
"I'm a city girl, and I wanted to be productive," said Graves, "When your husband is deployed, you reach for things to do."
The garden was started in late May by Ann Marie Detavernier, a spouse who said she was tired of growing vegetables on her cramped balcony.
Getting permission to dig up the lawn in front of the high school took some polite coaxing, Detavernier said, but now the families of Baumholder get to enjoy the fruits of her labor, planting their own peas, tomatoes, peppers, pumpkins and wildflowers.
It is the only community garden so far on a U.S. military post in Europe, said Detavernier, who has posted guidelines on a Facebook page so that other military communities can follow her example. She got the idea to plant the garden, she said, from the small garden plots dotting the German countryside, as well as the fact that several stateside military installations have set aside patches of land for residents to cultivate.
Though Detavernier's tiny garden won't be replacing the produce at the commissary anytime soon, she says she sees it as a way to help the base become slightly more self-sufficient, as well as a place where Baumholder's families can converge on a sunny day.
"As a child, my summers were spent barefoot in my mother's garden," Detavernier said. "And I wanted to create something where my kids could be outside, and I could show them the time and energy it takes to grow things, that they don't magically appear in the commissary."
On a recent weekday, Baumholder's young farmers appeared to be more interested in entomology, hunting for grubs and then feeding them pretzels.
Gloria Bynum planted several lavender bushes with the help of her 3-year-old daughter Breanna, who resisted, at first, getting her hands dirty. But soon she dug holes and looked for grubs with the other children.
Her rust-colored hair tied in a bun, and her hands and knees caked in soil, Bynum, 27, said she had grown up on a farm in Waynesboro, Tenn., where her father often put her to work in the garden.
"My dad was very old school," she said. "We hand-tilled, shoveled, and fertilized. If you were big enough, you helped."
Gardening, Bynum said, also gives her an outlet for the pent-up anxieties and stress of her husband's deployment to Afghanistan. On his last deployment, she said she painted the house six times.
Adjacent to Bynum's plot was one being tended by Sgt. Dean Owens, who is part of the rear detachment. The garden plots are not limited to spouses, though spouses tend most of them with the brigade currently deployed.
Owens' plot was one of the few showing signs of life already. Green shoots poked out from the soil, and a lone strawberry hung from a vine. He had planted a variety of vegetables and herbs: carrots, cucumbers, garlic, bell peppers, chives and dill. He said he was looking forward to seeing what the first harvest would bring.
"I just hope the yield is good," he said.
Owens is not deployed because of several enlarged lymph nodes. He said he was also being treated for anxiety and sleep apnea.
"It's a good stress reliever," he said of gardening. "I can come out here and just go into my own world."

Via http://www.stripes.com/news/europe/germany/community-garden-in-germany-helps-residents-cope-with-loved-ones-absence-1.150038#.TlVFt6wg49U.facebook

Students Participate in PLANET 2011

During the third week of March 2011, 42 students and 4 faculty advisors traveled to Joliet, Illinois to attend the 2011 edition of PLANET Student Career Days, sponsored by the Professional Landcare Network. Students competed in 28 events and attended a career fair where landscape contracting companies from across the nation vied for their attention. Over 800 students attended the event, representing 62 schools. For the sixth year in a row, your Penn State team finished in the top ten, bringing home another sixth place certificate. That is quite an accomplishment!

Students who received top ten awards:
Derrick Stack—1st in Business Management
Kevin Braun—1st in Arboriculture Technique
Frank Grano—1st in Arboriculture Technique
Brandon Hills—3rd in Paver Installation
Mike Przybyla—3rd in Paver Installation'
Dylan McAninch—4th in Truck & Trailer
Ken Roe—4th in Truck & Trailer
John Harre—5th in 3D Exterior Design
Amy Hinkle—5th in Sales Presentation
Derek Thomas—7th in Irrigation Troubleshooting
Dan Paulson—7th in Plant Problem Diagnosis
Jason Beakes—8th in Computer Aided Design
Whitney Crater—8th in Construction Cost Estimating

The team enjoyed visiting sites in Chicago, including Millennium Park and The Loop. The Brickman Group, landscape contractor for the Lincoln Park Zoo, provided a special tour of the zoo grounds. Regional Manager Mike Beltz (LSCPE '95) and Technical Training Manager Kory Beidler (LSCPE '99) hosted the Penn Staters for the tour and a much-appreciated lunch. Penn Stater Joe Ketterer made sure the animals responded properly to "We Are". Alumnus Pasquale Bondi (LSCPE '95), a Chicago resident and sales manager with Merck, also met the group at Navy Pier later that evening and provided sage advice on career flexibility.

Joining the Penn State contingent in Chicago was alumnus Scott Burk (LSCPE '95). Scott assisted in training the Penn State team and provided support throughout the event. Other alumni were in attendance representing companies from Maryland to California. Alumni Mike Reinert (LSCPE '96) and Jaina Craddock (LSCPE '00) brought their teams from Iowa State University and The University of Maine, respectively.

Next year's Student Career Days will be hosted by Kansas State University in Manhattan, Kansas.

Congratulations Mike Mohney!

Mike Mohney was selected as the first ever recipient of the 2010 Paul R. & Joan M. Shellenberger for Excellence in Undergraduate Teaching Award. This award was established to recognize full-time instructors with teaching appointments (not on tenure track) in the College of Agricultural Sciences who exhibit excellence in undergraduate teaching and contribute significantly to the education of the undergraduate student.

Evaluating Nordmann Fir for the U.S. Christmas Tree Industry

Strategically situated at the crossroads where Europe meets Asia, Georgia has a unique cultural history, famous traditions of hospitality and cuisine and an alphabet which is entirely its own. Georgia was once also considered the fruit basket of the former Soviet Union, and has long been recognized for its excellent wine (they claim they invented it!). Less commonly known is the impact the Caucasus region, and Georgia in particular, has had on the world's Christmas tree industry. Georgia is home to the Nordmann fir, a stately conifer with beautiful foliage, which in recent decades has become the leading Christmas tree species grown in Europe.

Georgian seed companies have supplied European nurseries with seed for many years. However, as Nordmann fir seed orchards in Western Europe eventually matured, the demand for seed harvested in the mountains of Georgia declined, and seed companies saw the need to expand into new markets. Concurrently, the U.S. Christmas tree industry had a history of reliance upon only a handful of native species and realized the need to diversify, in an effort to reduce pest problems and offer consumers something new.

Early experiences with Nordmann fir by eastern U.S. Christmas tree growers however were disappointing; the trees often suffered damage in the cold winters and growth was much slower than traditional species. Consistent and verifiable new sources of Nordmann fir seed with acceptable cold hardiness were needed if this exotic species was ever to gain a foothold in the U.S. market. In 2008, Dr. Rick Bates, a Penn State University horticulturist who works with the Christmas tree industry, made his second trip to Georgia at the request of the Tbilisi-based seed company Goni, Ltd. The goal of this trip was to help Goni, Ltd. lay the groundwork necessary to expand into the U.S.

"Three things needed to happen for this relationship to take off and become fruitful," explained Bates. "First it was necessary to close the knowledge gap—Goni needed to understand differences between U.S. and European markets, and the specific constraints peculiar to Christmas tree production areas in the eastern U.S. Goni would also benefit from a linkage with a U.S. seed processor connected to our nursery industry. And finally, we hoped to establish a coordinated system to evaluate, under eastern U.S. growing conditions, the new Nordmann fir seed sources being collected and developed in Georgia by Goni."

Significant progress has been achieved on all three fronts. As a result of this joint project, Goni established a business agreement with a U.S. conifer seed processing company. Nordmann fir seed collected from several new locations within Georgia, and better adapted to the eastern U.S., has already made its way to U.S. nurseries. The resulting seedlings will eventually be distributed to Christmas tree farms for further field testing. While visiting Georgia, Dr. Bates provided training on developing stable seed supplies and systems of delivery, product distribution and marketing, and conducted workshops related to Christmas tree production and market dynamics in the U.S. In addition, Kakha Karchkhadze, General Manager of Goni, Ltd. visited New York and Pennsylvania Christmas tree farms and nurseries and witnessed firsthand how seed from his company moves through the U.S. value chain.

Bates also had the opportunity to visit several cone collection sites in Georgia's Minor Caucasus mountain range. This ecologically rich region has been underutilized as a source for potentially profitable Nordmann fir seed and is central to plans developed by Goni and Penn State University for future collection and evaluation projects.

—Continued on Page 12—

The Philadelphia Story

"The Philadelphia Story" may bring to mind the 1940 romantic comedy movie starring Cary Grant, Katharine Hepburn, and Jimmy Stewart, but Penn State faculty members from several departments are actively engaged in some good "old style" extension and applied research in the City of Philadelphia in the heart of the city under the gaze of William Penn, perched high atop City Hall. Dr. Bill Lamont has brought high tunnel technology to the city to teach people how to grow and sell horticultural crops right in the city. Bill and his colleagues in the department have been working with high tunnels since 1998 when they started the High Tunnel Research and Education Facility located on the Horticulture Farm at Rock Springs, PA. Those that have been to Ag Progress Days may have taken the high tunnel tours and visited the high tunnels and for those that have not, here is a brief description of what a high tunnel is all about.

High tunnels are an excellent example of season extension technology; when employed by growers the season can be extended at least a month and because crops stay dry the yield, quality and postharvest life of vegetables, small fruits and cut flowers is usually enhanced. High tunnels are certainly not greenhouses, although greenhouse principles serve as the basis for the function of a high tunnel. High tunnels normally have only one layer of plastic over a pipe frame, unlike a greenhouse where there are two layers inflated with air over a pipe frame. There is usually not a furnace or permanent type heating system or the associated fans for heating and ventilating. There is no electricity in a high tunnel. Ventilation is accomplished by manually rolling up the sides each morning. The ventilation of the tunnels is critical to the successful production of crops in a high tunnel. Some growers have installed a small fan and louvers to provide some ventilation and to keep the temperatures from rising rapidly in the morning until they are able to roll the sides up. Some growers provide short-term supplemental heat with non-vented propane heaters. Drip irrigation is used for watering and fertigation by injecting soluble fertilizers or organic based fertilizers. In many cases pests are control biologically.

The Department of Horticulture, Penn State University, and Philadelphia County Cooperative Extension personnel partnered with community-based organizations to obtain two USDA's Specialty Crops Block Grants administered by the Pennsylvania Department of Agriculture to assist with the purchase and/or construction of high tunnels. The project provides hands-on training on construction, production and operation of high tunnels to produce vegetable crops for an extended season. Greens and other cool season vegetables are harvested year-round to help eliminate the food deserts that exist in the city of Philadelphia and to provide more fresh and nutritious specialty crops (vegetables/small fruits) to the underserved populations, thus fighting obesity and the associated health ramifications.

Urban farming is a rapidly growing and expanding movement in the United States, particularly in Philadelphia. Half of the U.S. population resides in or around urban areas and urban farming can contribute to food security, food safety and workforce development. Increased availability of fresh and nutritious vegetables and fruits, especially to underserved populations in urban

—Continued on Page 13—

Evaluating Nordmann Fir for the U.S. Christmas Tree Industry (Continued)

Perhaps even more significant than the immediate gains realized by Goni, Ltd., is the potential for the long term revitalization of Georgia's tree seed industry as well as new start-up businesses that may result from the partnership.

Recently, Tbilisi's Chavchavadze State University in cooperation with Goni, designated a large parcel of land for Christmas tree research and to explore the potential for development of a Nordmann fir Christmas tree industry in Georgia. Production of Nordmann fir seedlings and cut trees would be a natural complement to the existing seed industry, and would provide valuable employment opportunities for local communities.

The Philadelphia Story (Continued)

areas lacking retail food outlets is a high priority of decision makers at the federal, state and local level and is viewed as a way to combat the alarming rise of obesity especially in children and thus reduce related health care costs in the country. Penn State faculty members have been able to extend the growing season to year-round production of selected crops.

High tunnels, varying in size from 30' x 60' to 12' x 20' have been constructed at the SHARE Food Program, on 2901 West Hunting Park Avenue; Grumblethorpe Museum and Farmstand, located at 5267 Germantown Ave.; Walnut Hill Community Farm, located between 46th and Farragut Streets, and Ludlow and Market Streets; the Awbury Arboretum, Washington Lane in association with Weaver's Way Produce; Urban Girls Produce located at the Schuylkill Center for Environmental Education located in the northwest corner of Philadelphia, in the neighborhood of Roxborough; Saul Agricultural High School located off Ridge Ave.; and Teens for Good at 8th and Poplar Street at a Philadelphia Parks and Recreation site.

Penn State has tremendous expertise in the development and utilization of high tunnel technology across the state and is a natural partner to assist with the further introduction of high tunnels as part of the larger Urban Farming Initiative in Philadelphia. A wide variety of partners are involved in this project from public and private schools, community organizations, community recreation centers, and food banks and all partners are committed to the utilization of high tunnels to teach and employ young people and members of the community in the production of fresh vegetables, small fruits and flowers to enhance the lives of urban residents. This project truly showcases "old style" extension and applied research at its finest, to positively impact the lives of Philadelphia residents.

Alumni News: We want to hear from you!

Please take a minute to share what has happened to you recently: new positions, promotions, advanced degree (s), birth of children, professional recognition, retirements, marriages, etc.
Email Heather Read, hxh129@psu.edu or mail to: Dept. of Horticulture, Attn: Alumni Newsletter, The Pennsylvania State University, 102 Tyson Building, University Park, PA 16802

Name:_____
Class of _____
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Your news: new positions, promotions, advanced degree (s), birth of children, professional recognition, retirements, marriages, etc.

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If you have questions, comments, or items that you would like to see in next year's newsletter, email Heather Read, hxh129@psu.edu.