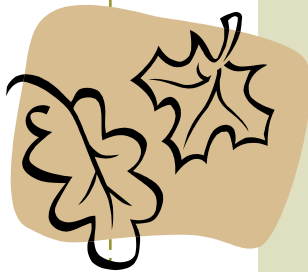




Horticulture Alumni Newsletter



Department of Horticulture
College of Agricultural
Sciences



Inside this Issue:

Message from the Department Head	1
Horticulturist named Outstanding Alumna	2
International News	6-7
HORT Show 2010	8
PSU Places 6th at PLANET 2010	9
Horticulture Research	12-13

Message from the Department Head

The Department of Horticulture had a busy and productive year. As you read through this newsletter, you will learn how the department is generating new information and making that information available to people in Pennsylvania and around the world to improve their lives.

Although student enrollment in the plant sciences continues to decline across the country, our enrollment is declining slower than at many Land Grant universities. We still have one of the more comprehensive course offerings in the country and we are constantly enhancing the curriculum to better prepare students for modern careers. The Landscape Contracting program is using and teaching more video technology to provide students with skills they will need in the future. Three Horticulture courses are being developed into online-courses and along with the courses already on-line, we hope to offer an on-line certificate program.

Cooperative Extension is in the process of restructuring. The Horticulture Natural Work Group has four teams; Vegetable and Berry Crops, Tree Fruit and Grapes, Ornamental Horticulture, and Consumer Horticulture and Master Gardeners. State

Specialists and County educators within each team are developing state-wide programs. They are also exploring alternative funding sources to maintain strong programs. A multi-institutional extension proposal was also funded to develop online materials to help commercial and non-commercial apple growers select rootstocks and cultivars for specific locations in the eastern U.S.

The department had its best year ever at obtaining external funding in the form of grants, gifts and contracts. Some of these funding opportunities have allowed the department to become more involved in international work, involving both extension-types of activities as well as research projects and graduate student training. As a result, we have hosted quite a few international post-doctoral scholars, visiting scientists and graduate students during the past year. Research activities continue to address the continuum of the plant sciences, from molecular biology, genetics and breeding aimed at improving germplasm of horticultural and biofuel crops, to forest ecological issues related to climate change, drought stress and air quality, to production of horticultural crops using conventional sustainable and

organic techniques, to marketing of horticultural products.

Maintaining quality programs has been challenging due to declining public funding, and we expect further cuts next year. Funding challenges will result in some changes in the structure of the College and possibly the department as we look to improve efficiencies and invest in our strengths. Fortunately, federal and state legislators are recognizing that agriculture is important to the future of our society and the latest farm bill has funding for new programs associated with new farmers, horticultural crops, organic farming, and extension and some large foundations are funding plant research in developing countries. I believe that horticulture will increasingly be recognized as critical to the health and well-being of society, because horticulture touches everyone every day.



Horticulturist named Outstanding Alumna by Penn State College of Ag Sciences

UNIVERSITY PARK, Pa. -- Penn State's College of Agricultural Sciences has honored Holly Harmar Shimizu of Glen Echo, Md., with a 2010 Outstanding Alumni Award. The award recognizes alumni for their achievements and provides opportunities for recipients to interact with the college's faculty, students and other alumni.

“Under her leadership, the garden has flourished with the creation of the new National Garden and the development of innovative exhibits, interpretations and outstanding plant collections “

Since 2000, Shimizu has been executive director of the U.S. Botanic Garden -- the oldest botanic garden in North America -- in Washington D.C. Under her leadership, the garden has flourished with the creation of the new National Garden and

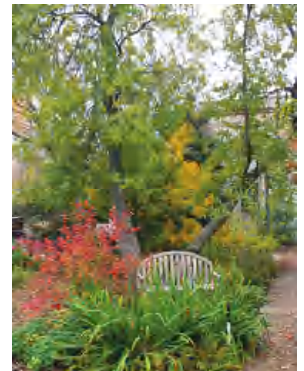
the development of innovative exhibits, interpretations and outstanding plant collections.

Shimizu also is involved in the Sustainable Sites Initiative, an interdisciplinary effort of the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at the University of Texas at Austin and the U.S. Botanic Garden. SITES has produced the first national, voluntary set of benchmarks aimed at transforming the way landscapes are designed and built.

After graduating from Penn State in 1976 with a bachelor's degree in Horticulture, she worked in gardens and nurseries in England, Belgium, Holland and Germany. She was curator of the National Herb Garden at the U.S. National Arboretum in Washington D.C. for eight years and the managing director of the Lewis Ginter Botanical Garden in Richmond, Va., for four years before taking her current post.

Shimizu is known internationally as a flower show judge, lecturer and writer in the field of horticulture. She also was one of the hosts of the public television show, "Victory Garden," and can be heard on National Public Radio.

Shimizu is on the advisory committee for Longwood Gardens in Kennett Square, Pa., and served on the board of Botanical Garden Conservation International-U.S. and the American Horticultural Society. She has won many awards, including the Massachusetts Horticultural Society's Thomas Roland Medal for outstanding contributions to horticultural education



HORT Alumni Update

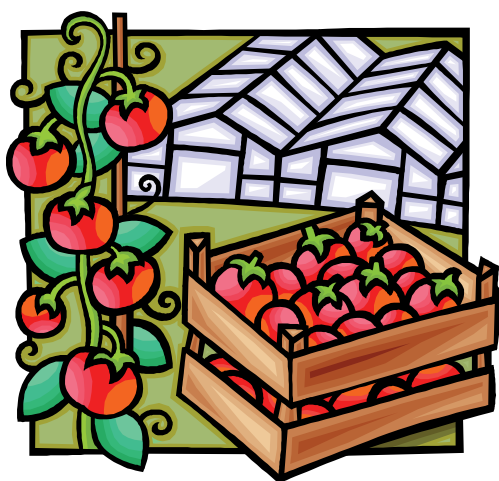
This year has not been very active for the Hort Alumni Group. Mary and Tracey did not teach winter continuing education classes due to personal obligations. These classes are the big money maker for the group. The group did make corsages for fall and spring graduations and will receive compensation from the Ag Alumni Soci-

ety. Help us! We are looking for ways to rejuvenate the group. In years past, there was a nice sized group of active members that would get together a few times a year for Alumni activities (tailgating, corsage sales, teaching classes, social events). This has dropped to 2 active members. Please send us your

thoughts, suggestions and comments. We are all ears!



Please contact Tracey Harpster at 814-865-3190 or tlh8@psu.edu



New Faces and Retirements in the Department

-New Faces-

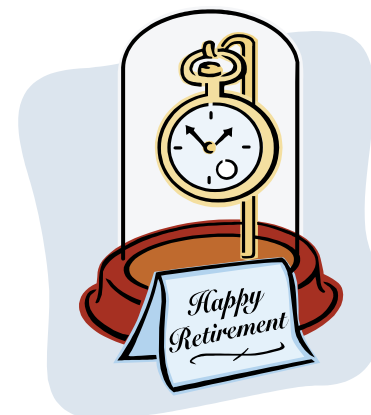
Heather Read joined the department in March 2010 as an Administrative Support Assistant for the main office.

Lena Landherr-Schaffer joined the department in July 2010 as a Research Assistant for Mark Gultinan's Lab.



-Retirements-

Jay Holcomb started his teaching career at Penn State back in 1977. After teaching for 33 years, he retired from the University in June 2010.



Commencement—Fall 2009, Spring and Summer 2010

HORTICULTURE & LANDSCAPE CONTRACTING (B.S. DEGREE)—FALL 2009

Benjamin Keim
Randall Ross

LANDSCAPE CONTRACTING (B.S. DEGREE)—FALL 2009

Norbert Baier
Tu Bui
Christopher Bunch
Andrew Carpenter
Matthew Hazel
Kevin Heilman
Michael Luznar
David Mattern
Michael McCallips
Peter McGregor
Lee Parfitt
Katrina Pope
Christopher Snyder
Jordan Wayland
Bradley Wetzel

HORTICULTURE (B.S. DEGREE)—FALL 2009

Thomas Haffly
Jennifer McConnell
Cain Hickey

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

Nicholas Ball
Jay Bell
Christopher Bunch
Paul Dixon
Malik Donovan
Christopher Edmiston

Patrick Hegemann
Brittany Hunter
Benjamin Juarez
Xiu Lin
Matthew McCloskey
Brendan McDonald
Zachary Miller
Kyle Pearman
Vincent Pollino
Randall Ross
John Rupert
Adam Scheletsky
Justin Sherman
Evan Stearns
Chad Sterkenburg

HORTICULTURE (B.S. DEGREE)—SPRING 2010

Jordan Acri
Owen Bellis
Jared Bonczek
Bethany Carter
David Frey
Fred Gouker
Jennifer Himes
Mark Lasich
Angel Lyons
Randall Ross
Matthew Urian
Kyle Weidner
Joseph Wolfe

HORTICULTURE (M.S. DEGREE)—SPRING 2010

Laurie De La Riva
Richard Hoover
Jane Wubbels
Jennifer Landry

HORTICULTURE (PH.D. DEGREE)—SPRING 2010

Chien-Chih Chen

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

Bryan Clauson
Ryan Danner
Michael Coccia
Scott Lesak
Christopher Lisiecki
John Ritter
Humberto Sarabia
David Silliman
Chad Sterkenburg
Peter Wittman

HORTICULTURE (B.S. DEGREE)—SUMMER 2010

Peter Lucas



Landscape Contracting 2009 Fall Field Trip

-Dan Stearns, Professor of Landscape Contracting

During October 2009, the annual Landscape Contracting Fall Field Trip descended upon the Big Apple for an outstanding tour of urban spaces and gardens. The fun began as the group departed the bus and embarked on a voyage across New York harbor on the Staten Island ferry. Views of lower Manhattan and the Statue of Liberty were spectacular in the morning light. Upon return to solid ground, the entourage began a 7-mile walk that included a variety of stops. Representatives from John Mini Distinctive Landscapes met the group at the Winter Garden at the World Financial Center, located across the street from Ground Zero. Their discussion of rebuilding the interior garden under extreme conditions and timelines kept the attention of all. Other sites visited were Teardrop Park, a controversial garden in a high-

rise residential development, Jacob Javits Plaza, an area that has undergone multiple re-designs, Washington Square Park, the Irish Potato Famine memorial, and the fabulous transformation of an abandoned elevated railway into Highline Park. The day ended with dinner and people-watching in Times Square.

Day two of the trip started at Bryant Park, where Jeff Erb (LSCPE 2007) discussed recent renovations to the park, as well as his work as designer for a New York City landscape firm and his recent venture into self-employment. His description of projects and clients was most interesting. The next stop was Greenacre Park, a unique vest-pocket space in midtown. The path then swung into Central Park, then back out to Fifth Avenue, past Frank Lloyd Wright's Guggenheim Museum, and on to the Central Park Botanical Gardens. After two busy days of walking, the comfort of the bus seats on the ride home was

appreciated.

The annual Fall Field Trip is designed to expose 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 green industry representatives to interact outside the walls of Tyson Building. Joining students on the 2009 Fall Field Trip were faculty members Kathy Kelley, Martin McGann, Mike Mohny, Jim Sellmer, and Dan Stearns.

“It is an excellent opportunity for students, faculty, and green industry representatives to interact outside the walls of Tyson Building”.



Leaving the Winter Garden at the World Financial Plaza



Relaxing at Highline Park



Alumnus Jeff Erb discussing Jeffrey Erb Design, his new landscape design/build firm

Assessing Christmas Tree Production Potential In Ukraine

The celebration of Christmas, and the tradition of bringing a tree indoors to display during the season have a long tradition in Ukraine. However, commercial Christmas tree farms are virtually nonexistent in the country. Recently, Dr. Rick Bates, Associate Professor of Horticulture was invited to visit Ukraine to initiate a Christmas tree industry assessment, and to conduct workshops on commercial Christmas tree production and marketing techniques.

According to Bates, “the majority of Christmas trees sold to Ukrainians during the Holiday season are derived from forest thinning operations by the Ukrainian State Committee of Forestry.” The resulting trees

are inexpensive, however quality is low and they don’t resemble cultured Nordmann fir, the most common Christmas tree in Western Europe. As a middle-class with more disposable income develops in Ukraine, and consumer preferences change, the demand for a more “western” style Christmas tree could follow. And production will likely shift from state-owned forest land to agriculture land.

“Currently a large amount of prime agricultural land is sitting idle, and Christmas tree production may represent an economic opportunity for small Ukrainian land owners”, commented Bates.

During his 8-day visit, Dr. Bates

presented lectures and workshops in Lviv, at the National Forestry University of Ukraine and the Lviv National Agrarian University, and the Institute of Forestry and Landscape Architecture, in Kiev. A seminar detailing U.S. Christmas tree production practices was also presented to State Committee of Ukraine Forestry personnel. Preliminary plans to conduct joint research projects including conifer seed source evaluation and market development were also initiated.



Researching Roots In Africa

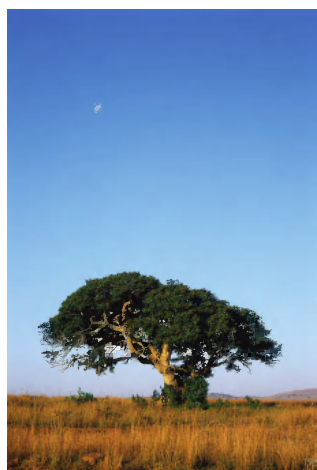
During the past 25 years Dr. Jonathan Lynch has collaborated with scientists in the United States, Asia, Latin America, and Africa has shown that root architecture plays a critical role in determining plant yields under stressful soil conditions. Correlated with genetic information, root traits can be harnessed to create higher-yield varieties of important crops like corn, bean, and soybean, he says. Traits are being selected to develop varieties that will perform well of poor soils without fertilizer and irrigation. In the developed world, stronger roots can have economic and environmental benefits. The biggest cost in growing corn is nitrogen fertilizer and nitrogen is also the biggest pollutant, since half of the fertilizer

leaches into the soil before being taken up by roots. Lynch is currently working on developing corn varieties with roots that absorb the nutrients more efficiently.

Recently, Lynch received a grant from the Howard G. Buffett Foundation. Howard Buffett, a farmer, photographer, conservationist, and philanthropist, is interested in improving crop yields as a means to increase food supply, Lynch notes. The funding was used to establish the Ukulima Root Biology Center, a 50-acre field on Buffet’s 6,000-acre farm in South Africa.

A fully equipped lab was constructed on the site, with housing and internet access. Having research facilities in the south-

ern hemisphere provides access to two growing seasons and the ability to study drought and other stress factors on a large scale. For more information on the project, see <http://live.psu.edu/story/44410/nw4>.



Horticulture Faculty Obtain BREAD Grants

Launch of the College of Agricultural Science's Ag2Africa initiative coincided with a May 12 announcement that three Africa-related projects involving the college would receive grants from the BREAD program (Basic Research to Enable Agricultural Development), a collaboration between the National Science Foundation and the Bill and Melinda Gates Foundation. The grants were three of just 15 awarded nationwide.

One BREAD grant will support a collaboration to develop maize varieties with root traits that will enhance a plant's ability to ac-

quire water and other soil resources while reducing the metabolic cost to the plant of soil exploration. Jonathan Lynch, Penn State professor of plant nutrition, will lead the project, which is designed to develop products and approaches that will help feed hungry people in Africa. Co-principal investigators include Kathleen Brown, Penn State professor of postharvest physiology, Shawn Kaepler of the University of Wisconsin-Madison and George Kanyama-Phiri of Bunda College of Agriculture in Malawi.

Mark Gultinan, professor of

plant molecular biology in the Department of Horticulture, is a co-principal investigator on another BREAD project aimed at developing and testing two novel methods for achieving plant resistance to fungal diseases. Promising techniques will be applied to cacao, an important cash crop in West Africa. Ultimately, these new technologies also could be applicable to a broad array of fungal diseases of rice, wheat and other crops important to the developing world.



Cultivating Relationships and Crops: A Service Learning Experience at Nuestros Pequeños Hermanos

For the past several years, Alex Borys, Instructor of Agricultural Sciences, has taken a group of students to Mexico to learn the language, experience the culture, and to become familiar with Mexico's agricultural practices. For the students, this trip is a culmination of three semesters of agricultural Spanish. Dr. Ricky Bates, Associate Professor of Ornamental Horticulture and Michael Mohny, Instructor of Landscape Contracting worked with Alex Borys' Spanish 107 class to develop age appropriate activities to implement at Nuestros Pequeños Hermanos (NPH) orphanage. NPH is located in Miacatlan, Mexico and is agriculturally self-sustaining; raising its own livestock, farming fish, and planting and harvest-

ing its own crops. Our intention for the orphanage was two-fold: first, introduce a sustainable crop into their farming system and second, change the children's perception of agricultural related activities. The Moringa Tree (*Moringa oleifera*) is a multi-purpose tree and is being promoted as a resource to fight poverty and malnutrition in third world countries. The tree provides a high source of Vitamins A, B, and C; contains all essential amino acids; can purify contaminated water; and grows very quickly in many types of environments. Additionally, a high concentration of trees can be grown in a relatively small area. In two days time, Ag Spanish students cleared enough land to build four raised planting beds using

stacked stone and transplant 500 Moringa trees. From our visit, the orphanage children have a better understanding of various horticulture and agriculture techniques, gardening skills, and the nutritional benefits of one plant. Our goal is to be able to return each year to provide agricultural instruction to the children. This would offer future Penn State students an opportunity to interact with others from a different culture and provide them with a unique learning experience that they wouldn't get in a classroom setting.

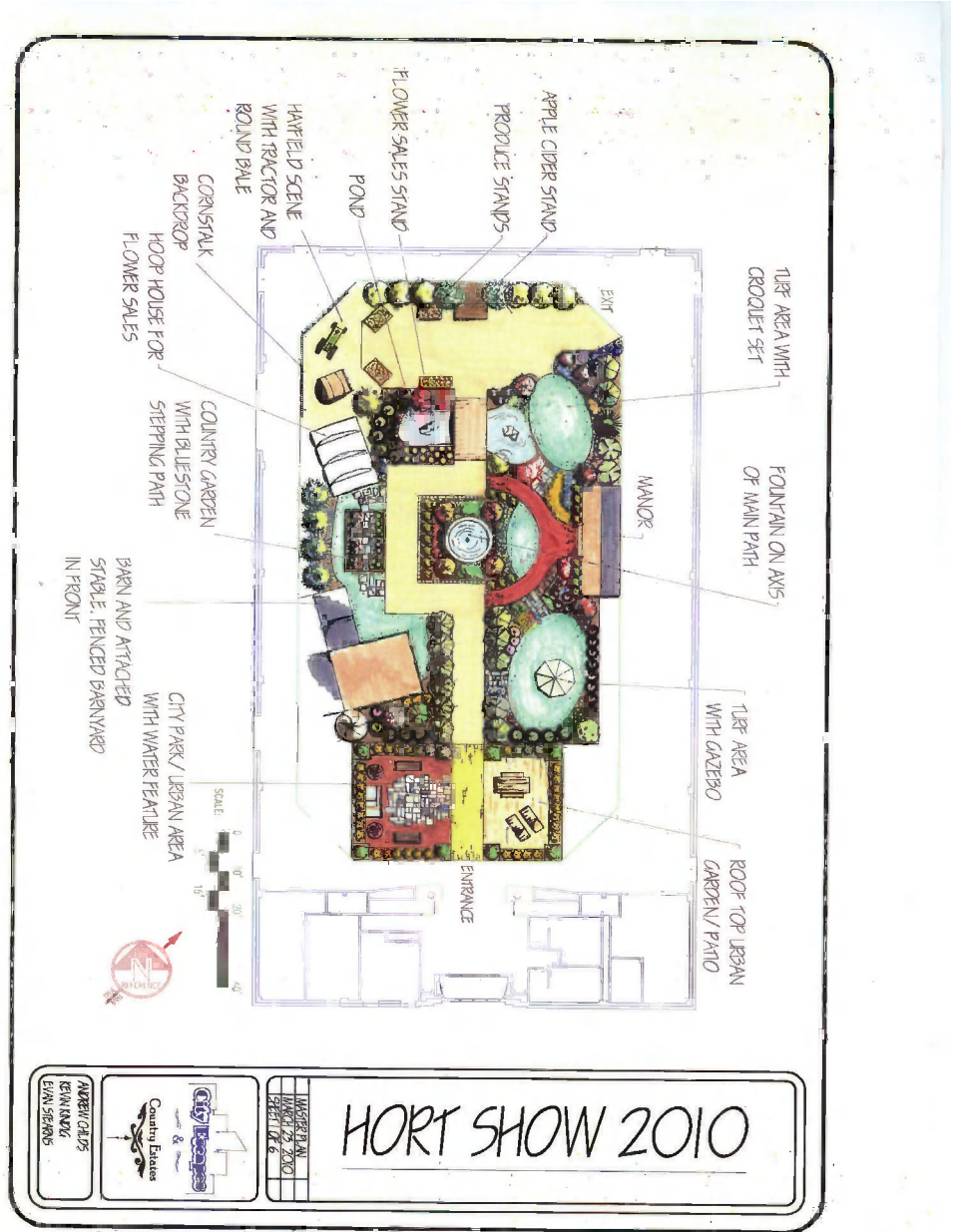


HORT Show 2010

Horticulture Alumni

City Escapes and Country Estates

This year's show will be a display of landscapes of different styles varying from city green spaces to the beautiful countryside. The Horticulture Club is grateful to all of the companies that are donating plant material to make this a spectacular show. Through donations and the funds generated by the show, the Horticulture Club students are able to participate in collegiate events, including visits to companies and nurseries, PLANET Student Career Days, scholarships, and other educational club activities throughout the year. This year The Horticulture Show will be October 9th and 10th and will be open from 9:00 A.M. until 4:00 P.M. during the home football game. Please remember, seasonal produce will be available along with cider, mums, and both large and small plant material. All are welcome so please come enjoy the scenic tour in the Snyder Agriculture Arena and take a walk through our *City Escapes and Country Estates*.



PSU Places 6th at PLANET 2010

-Dan Stearns, Professor of Landscape Contracting

During the first week of April, 2010, 32 students and 5 faculty advisors traveled to Atlanta, GA to attend the 2010 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 60 schools. For the fifth year in a row, your Penn State team finished in the top ten, bringing home a very respectable sixth place certificate!



Students who received top awards include:

Jenna Hicks—Second in Sales Presentation
Kyle Pearman—Second in Computer Aided Landscape Design
Kevin Kindig—Second in Landscape Maintenance Operations
Vince Pollino—Second in Landscape Maintenance Operations
Jack Ruppert—Third in Leadership Skills
Melissa Berrier—Third in Interior Landscape Design
Melissa Blake—Third in Irrigation Design
Andrew Childs—Fourth in Personnel Management
Jon Gumbel—Fourth in Personnel Management
Margaret Hoffman—Fourth

in Annual & Perennial ID

The long bus ride to Atlanta was broken up by an overnight stay in Asheville, NC, where the group viewed newly installed site improvements to the city's Pack Square. Contractor for the project was ValleyCrest, and the travelers were fortunate to meet with Project Manager Chris Carnahan (LSCPE 2003) and Operations Manager Tim Baskerville. The next stop was the Biltmore Estate, George Vanderbilt's fabulous home along the French Broad River. While the house tour was enjoyable, the highlight of the visit was a personal tour of gardens and grounds from the estate's head arborist, Bill Hascher (LSCPE 1993). Bill's knowledge of, and respect for the historic landscape impressed all.

Joining the Penn State contingent in Atlanta were Landscape Contracting alumni Scott Burk (1995) and Eddie Anawalt (1998). Both assisted in training the Penn State team. Other alumni were in attendance representing companies from Maryland to California. Alumni Jules Bruck (LSCPE '92) and Mike Reinert (LSCPE '96) brought their teams from The University of Delaware and Iowa State University.

Next year's Student Career Days will be hosted by Joliet

Junior College in Illinois during March, 2011.



"For the fifth year in a row, your Penn State team finished in the top ten,"

Penn State LSCPE and HORT Students Visit French Gardens

—Martin McGann, Associate Professor of Landscape Contracting and Kathleen Kelley, Associate Professor of Horticulture Marketing

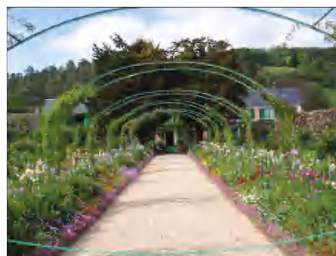
Ernest Hemingway said “Paris is a movable feast.” Students and faculty of the landscape contracting program found out this past spring that “France is a movable garden feast” as they travelled for nine days through some of the most beautiful gardens in the world. This trip, which was part of a spring semester course *Paris and the French Countryside: Gardens and Landscapes of Distinction*, was divided into two parts. The first involved traveling through the countryside of central France, particularly the region of the Loire. The second was an all too brief stay in Paris.

The countryside in central France contains many ancient and lovely gardens and landscapes. Selecting which ones to visit was difficult

“Students and faculty of the landscape contracting program found out this past spring that “France is a movable garden feast””

because they all offer so much. It was agreed to begin the tour by visiting Vaux-le-Vicomte which was designed by Andre le Notre prior to his grand *Pièce de résistance* which is the gardens at Versailles. The landscape at Vaux is centered around the Baroque chateau and combine parterre gardens, statuary, water features and strong axis. It was a wonderful place to start as every garden which followed built in some way on this strong design platform. The next stop was Chambord the massive hunting lodge of Francis I. The architecture was the main attraction here, especially the double helix staircase and wonderfully varied chimneys and towers of the roofline. Other gardens along the Loire included Villandry and Chenonceaux. Villandry, with its Gardens of Love, is based on a renaissance layout but contains

ornamental flowers, vegetables, and herbs in intricate contemporary patterns. The planting beds are spread throughout many different terraces and each holds its own charm for the visitor. Chenonceau resides close by on the River Cher and is known for its graceful architectural wing that spans the river. Besides this lovely setting for the chateau, Chenonceau offers a beautiful parterre garden set along the river. Other small gardens and landscape features can be found on the extensive park-like grounds. The area surrounding the Loire River is famous for the variety of wines which are produced there. As part of this course students had the opportunity to visit two local wineries where they spoke with the owners, visited the vineyards to see how the grapes were grown, inspected the processing equipment, and finally taste the end product. This seemed to be a very popular part of the trip. As the group approached Paris a side trip included Giverny, where the artist Monet had his garden. The grounds, although not extensive, were in full bloom with an abundance of iris, tulips, and many other herbaceous perennials. The wisteria was also blooming over the bridges crossing the ponds that contain the water lilies for which the artist is so well known. The general consensus was that although small, this garden was well worth the trip as it contained such an interesting variety of plant material in a lovely setting. The main entrance to the house from the garden is shown below.



As no trip to France would be complete without spending some time in Paris, our group spent several days in and around the City of Lights. The attractions here were historic and contemporary gardens and urban green spaces plus the cultural sites which are too numerous to mention. On our first day our group rode an open air tour bus through the city with stops at Notre Dame, the Tuilleries Gardens, the Arc de Triomphe, and the Eiffel Tower. These stops afforded the students time to get out and explore and stretch their legs. Away from the main avenues they found

small neighborhood parks filled with people, quaint cafes under spreading shade trees, and landscaped pedestrian walkways where railroad lines once stood. It was agreed that we could have spent twice as long in Paris and still not have run out of things to do. Near Paris, easily accessible by rail line, are the gardens and palace of Versailles. As we started this trip with a garden designed by Le Notre, it was only fitting that we end it with his greatest landscape design. The gardens cover over 2,000 acres with grottos, parterres gardens, allees of tall shade trees and numerous large and small waterfeatures. Different parts of the garden are set at various levels leading down to the Apollo Fountain and the Grand Basin which create a very dramatic panoramic view from the rear of the palace. The path one can follow to get to this area is as varied as the gardens you pass along the way. Walking throughout the gardens to see all of the sights can consume an entire day, especially if you take time out to have lunch at one of the small cafes. Add to this a tour of the royal apartments within the palace and it is more than worth the time and effort to get here. As the trip drew to a close everyone spent their last day visiting sites throughout Paris. Even with this free time hopefully there was something that they did not get to see and that will draw them back to France for another enjoyable visit.

This trip is part of the global education effort that the LSCPE program started several years ago to broaden student’s perspectives on other cultures through visits to gardens, landscapes and businesses in other countries. To date the program has taken students to England, Holland, Italy, and France. A future trip to Ireland is being planned for Horticulture/LSCPE alumni, faculty, and staff for summer 2011. Information on the itinerary should be available within several weeks.

Contact Martin McGann for information at mrm19@psu.edu



2009-2010 Horticulture Department Scholarships

The Horticulture Department awarded \$117,218 to undergraduate students for the 2010-2011 academic year.

Scholarship and award recipients are chosen by unit scholarship committees as well as a college-wide committee on the basis of their qualifications and donor-established guidelines.

If you wish to make a contribution towards any of these scholarships or are considering establishing a new scholarship, please contact Denise Connelly, Assistant to the Dean, College of Agricultural Sciences, Penn State, 140 Ag Administration Bldg, University Park, PA 16802, phone (814) 865-0113, email dcc6@psu.edu.

Horticulture Alumni Group

Nicholas Steffan
Emma Childs

Radley Run Garden Club

Daniel Paulson

Penn State Hort Club

Alison Roch

Wilbur & Mary Cherry Scholarship

Daniel Paulson

Aden & Merna Francis

Melissa Miller

Holcomb Family Scholarship in Horticulture

Melissa Miller

Joseph & Sharon Strite

Matthew Dommel

Bartlett Tree Foundation

Matthew Giroud

Robert Lamar Skeath

Kyle Atkins
David Leinbach

Joseph M. Johnston

Amy Hinkle

Esther J. Darrow Scholarship

Hanna Berisford

Acorn Alcinda Award in Landscape

Jordan Reitz

Patrick Bennett (Class of 1998)

Rhonda Patrick

David Curwen Memorial Award

Rhonda Patrick

George W. Sherlock Student Award

Kristelle Esterheizen
Jonathan Gumble
Tyler Klopp

Max & Esther Sestili Sr. Memorial Award in Landscape Contracting

James Wyble

John H. Weinberger

Andrew Childs
Aaron Householder

Harry W. Skinner

Samuel Mohr
Michael Schneider
Suzanne Slack
June Cunningham

Catherine S. Imbt

Nicholas Steffan
Nicholas Loew

Darrell E. Walker

Michael Mattis

Robert P. Meahl

James Wyble

Oliver L. Christman

Emma Childs
Jenna Hicks
Whitney Crater
Sarah Dickert
Christopher Brett
James Wyble
Colin Klutch

Fred H. Brown

Amy Hinkle
Kristin Prommet
Kristin Shust
Grace Garbini
Jillian Hanelly
Lucas Fedechko
Theresa Coleman
Sheri Taylo
Rachel Litovsky

J. Lupton and Eva Scott Mecartney

Emily Rice
Philip Kopczyk
Samuel Mohr
Shaun Callahan
Theresa Coleman
Matthew Dommel
Katherine Forsht
Talyssa Kinley
Michael Mattis
Daniel Paulson
Kristin Shust
Suzanne Slack

J. Franklin & Agnes T. Styer

Dylan Brown
Matthew Giroud
Kevin Kindig
Jeffrey Mace
Gregory Price
Wesley Rowe
Michele Lewis
Derek Thomas
Joshua Wagner
James Wyble
Tyler Anderson
Kelsey Benkoski
Christopher Fabish
Timothy Fox
Jeffrey Gomez
Sarah Cruikshank
Cody Hunter
Stephen King, Jr
Danielle Shaffer
Jordan Reitz
June Cunningham



Horticultural Research

Many research projects are being conducted by members of the Horticulture Department. Some are funded by competitive grants, some through foundations and gifts, and some with state and federal funds. Here are summaries of a few research projects intended to provide a brief overview of the great diversity of research being undertaken in the department.



Vegetation Management Project

“The aim is to preserve as much desirable vegetation as possible while minimizing undesirable vegetation and maintaining a desirable aesthetic, within the confines of limited resources.”

The Penn State Vegetation Management Project was initiated in 1985 to assist the Pennsylvania Department of Transportation's Bureau of Maintenance and Operations in the ongoing development of its roadside vegetation management program. The original focus was on the evaluation of materials and methods for selective brush control, Canada thistle management in crown-vetch, and growth regulation of roadside tall fescue turf; and to serve as an unbiased information source for the evaluation of emerging vegetation management technologies. Through continued funding from PennDOT, the project focus expanded to include all aspects of roadside vegetation management, using an Integrated Pest Management, or

more specifically, Integrated Vegetation Management approach. The aim is to preserve as much desirable vegetation as possible while minimizing undesirable vegetation and maintaining a desirable aesthetic, within the confines of limited resources. Examples of some of the ongoing research and demonstrations include management of specific weed species such as tree-of-heaven, Japanese knotweed, and Canada thistle; evaluation of alternative plant materials for roadside conservation plantings such as native warm-season grasses and forbs; and evaluations of corridor management approaches, equipment, and herbicides. Efforts were further expanded through funding from product manufacturers, the Pennsyl-

vania Department of Conservation and Natural Resources, and the USDA Natural Resources Conservation Service. As well as providing service to land 'management' agencies, we serve land stewardship agencies as well. We strive to be a resource for all land managers in Pennsylvania, and the Northeastern U.S. We are one of the few Land Grant-based groups with applied vegetation management expertise in this region. Learn more about the program at <http://vm.cas.psu.edu/index>. Participants include Project Leader Jim Sellmer, Associate Professor of Ornamental Horticulture, and Jon Johnson and Kirsty Lloyd, Research Support Associates.



Root Biology & Ecology (Elissenstate Lab)



Plants vary enormously in the morphology and physiology of their roots. We have only begun to understand the diversity in root form and function and the major role they play in ecosystem processes. At the physiological level, the primary function of mycorrhizal fine roots is water and nutrient absorption. Ecologically, roots have a major influence on plant competition, nutrient cycling, soil development and the complex web of soil microorganism. Lifespans of the finest roots of a plant may range from no more than a week to more than three years. Root diameters of the finest roots of a plant species can range from only 40 microns to nearly 1000 microns. Some species con-

struct roots that are unresponsive to changes in soil water or nutrient status; others build roots that grow rapidly when soil is favorable and shed quickly when soil conditions become unfavorable. We are interested in linking a better understanding of root biology and ecology to improved predictions on factors influencing species distribution and abundance. Studies are conducted under controlled greenhouse and growth chamber conditions as well as common garden plantings in the field and natural patterns in the forest. Field sites include forests in Pennsylvania, tallgrass prairie in Minnesota, tundra in Greenland, and forest plantations near

Harbin, China.

Current projects include:

An investigation of species variation in root lifespan and the factors that influence root lifespan
 Factors controlling root respiration, particularly associated with soil moisture and temperature of species from different latitudes
 Factors controlling the decomposition of roots and variation among species

Learn more about root biology and ecology at <http://rootecology.psu.edu/?q=node/41>.



Root Observation Box

Consumer Surveys Provide Marketing Information

A marketing research project, funded by the USDA Specialty Crop Research Initiative, is being conducted by Dr. Kathy Kelley, Associate Professor of Horticulture, along with Dr. Jeffrey Hyde, Associate Professor of Agricultural Economics, and Amy Chamberlain, Horticultural graduate research assistant <http://www.csrees.usda.gov>. For this research project, four Internet surveys were developed and implemented by targeting consumers residing in five metro-

politan areas within the Mid-Atlantic region: Baltimore, New York City, Philadelphia, Richmond, and Washington, D.C. Survey questions were developed to investigate factors influencing consumer purchasing decisions regarding fresh produce and value-added, processed products. Additional questions examined the role and impact of increasing food prices, rising energy costs, concerns about food safety, quality, availability, affordability, and other

economic factors currently affecting produce purchases. For more information about this project, visit www.midatlanticspecialtycrops.com.



Gardens of Ireland

Have you ever wanted to visit Ireland? How about visiting with Penn State alumni? Now, how about visiting with PSU alumni that like gardens? Well your opportunity will be coming up next year when alumni from the horticulture and landscape contracting programs will be traveling to Ireland with faculty and staff from the Department of Horticulture. This trip will be an opportunity to visit much of the Irish Republic and see many interesting and beautiful gardens as well as numerous cultural sites. The tour will be held in July of 2011 and is currently scheduled for seven days in country. The tour will start in Dublin and move clockwise across the Emerald Isle. More information is currently being developed and will be available online by the end of September. This information will include a preliminary itinerary, information about the four star hotels we will be staying and estimated costs for the tour and airfare. The tour cost will include an air conditioned motor coach with a guide and will also include admission prices to all scheduled stops. Ultimately the tour costs will be determined by the tour group size. The more the merrier. Please plan on joining us for a wonderful time in the Irish countryside and keep an eye out for more information. If you have questions please contact Martin McGann at mrm19@psu.edu.



