Environmental Horticulture NEWS

Fall/Winter 2004
Vol. 10 No. 2

The Bulletin of the Environmental Horticulture Department at the University of Florida

In This Issue:

Erin Eckhardt interned this summer at George Washington's Mount Vernon Estate and Gardens.

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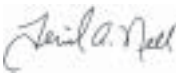
Chairman's Message - Terril A. Nell

Enhancing Graduate Education - A Statewide Approach

Receiving a graduate education would be much simpler if students had to concentrate only on coursework, tests and conducting a specific research program. Today, many Environmental Horticulture graduate students are satisfying their course requirements of the graduate program on the Gainesville campus. However, unlike a few years ago, the students are likely to conduct research in Gainesville and at one of our Research and Education Centers during their degree program – these graduate students have Co-Major Professors in Gainesville and at a Research and Education Center. Students must become accustomed to balancing the professional and academic philosophies of two faculty members and the need to stay in one location for three to four months and another location for the remainder of the year. Sounds like the real world – multitasking to achieve a goal! In the case of our graduate students, they are receiving outstanding academic knowledge, experience that will guide them through their professional and personal lives for many years and the ability to work with our faculty on- and off-campus. These students learn the value of communication among people at multiple locations and are exposed to a much larger portion of academic and industry related experiences than those students who remain in one location for a degree program. While these multi-location programs are difficult, the mentoring and experiences gained by the students are life changing – they truly learn the value of the strong, coordinated statewide Environmental Horticulture program within UF/IFAS. Read more about this topic on page 2.



UF/IFAS Hosts First ENH Science Camp for Middle School Children

The Mid-Florida Research & Education Center (MREC) in Apopka was abuzz with noise and laughter June 21st-25th. Although it was UF's summer break, laboratories and classrooms were put to use to stimulate interest in Environmental Horticulture and associated sciences. Statewide faculty and staff teamed up to offer a diverse program exposing 21 middle school children to the following topics:

The Growing Environment: Exploring the roles of water conservation and healthy soil. Campers experimented with several different soil types defining such terms as porosity and particulate and witnessing first hand the filtering effects of each soil type. This exercise was followed by a discussion on water use, reuse, and irrigation. Campers made their own sprinklers with interchangeable heads to show the difference between standard irrigation and micro irrigation. The concepts of flow and water pressure were topics for discussion at the dinner table that evening as campers enthusiastically shared what they had learned with their families.

Plant Identification and use: Learning about plant characteristics and how to best use them in interior and exterior landscapes. Taking into consideration the light and water needs of various plants, campers designed their own dish gardens. This exercise was most appropriate, as Apopka is known as the "Indoor Foliage Capitol of the World." It was interesting to observe campers as they carefully chose a variety of plants and potting materials that would function well together and be aesthetically pleasing.

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The "Split Personality" of Environmental Horticulture

A new trend is emerging in graduate study in the Environmental Horticulture program. Several students who in the past worked in one location with a single committee chairperson are now working with faculty statewide and have two or more co-chairs serving on their graduate committees. While the challenge of distance is a hurdle to overcome, these students have found that there are real benefits in being involved in research throughout the state.

Christopher Cerveny is working with Dr. Jamie Gibson (Milton) and Dr. Rick Schoellhorn (Gainesville) on his M.S. Chris comes to us from Michigan State University, where he graduated in 2002 with a BS in horticulture. His studies focused on greenhouse floriculture production. After graduation, Chris applied his talents as a grower of specialty annuals and perennials in Kalamazoo, Michigan until he realized he wanted to continue his academic career; this ultimately brought him to UF.

Chris is based in Gainesville during the academic year and works at our Milton campus during the summer months. Working from two locations provides many challenges for a new graduate student, but Chris has found ways to meet these challenges head on and to enjoy the benefits that it awards. "I see this system as a potential for other Universities around the country. Having this extension experience will assist me exponentially in the future." Chris communicates regularly with his advisor via e-mail and telephone conversations. Chris will be studying tropical perennial stock plant management and cutting performance, so the distance between his two research locations provides an excellent model for simulating long distance shipping practices. "I think this scenario awards me an opportunity not available elsewhere."

Ellie Danielson earned her B.S. from UF's School of Forest Resources and Conservation, majoring in Natural Resource Conservation and specializing in Environmental Education. She is currently working towards an M.S. in Environmental Horticulture with Dr. Sandy Wilson of the Indian River Research and Education Center (IRREC) at Ft. Pierce and Dr. Rick Schoellhorn (Gainesville Campus).

Ellie began her research in Ft. Pierce and returned to Gainesville in the fall semester to continue her studies here on the native blanketflower (*Gaillardia* sp). Ellie also has committee members at the North Florida REC in Quincy and West Florida REC in Milton.

According to Ellie, "It can be hard to work with professors in different places. It takes a lot of emailing to stay in touch, and LOTS of gas." She also feels she has the best of both worlds with the advantages of working at different campuses. "There is more field area for experiments in Fort Pierce, and a totally different environment from Gainesville. The campuses have different kinds of equipment and specialists."

Her research focuses on how wildflowers grown from seeds gathered statewide perform in different parts of the state, an aspect of research known as "provenance testing." She will be using field plots located at the North Florida, Gainesville, and Ft. Pierce campuses to grow the flowers. The data from her study can be used by wildflower growers and the Florida Department of Transportation, providing information on the suitability of blanketflower types for different locations.

Ellie's advice to anyone traveling between campuses is: 1) communicate often with your committee members; 2) figure out a way to study during the long drives; and 3) get SunPass for those turnpike drives!

Philip Kauth received a BS in Biology and a minor in Chemistry from University of Wisconsin-Stevens Point. After being involved with the Native Orchid Conservation Committee of the Northeastern Wisconsin Orchid Society, he decided to pursue graduate studies in orchid research. He looked for universities whose faculty studied orchid production and found Dr. Wagner Vendrame (Homestead). Philip's other co-chair is Dr. Michael Kane (Gainesville).

Philip's research involves the production of native Florida orchids, specifically two terrestrial orchid species: *Calopogon tuberosus* and *Sacoila lanceolata* var. *lanceolata*. His goal is to develop protocols and techniques for mass-production of terrestrial orchids using micropropagation and seed culture techniques, because native terrestrial orchids are excellent candidates for garden and landscape plants. Literature on micropropagation of terrestrial orchids is scarce, specifically for the native species, and he hopes to increase the literature and our knowledge of the subject. Another of his goals is to educate people about native production, cultivation, and conservation.

As with other students, his major challenge in working with faculty from different sites is the distance; he has not yet worked in Dr. Vendrame's lab. Philip has found writing grants, exchanging ideas, and keeping updated on current projects is not easy. But he believes that the positives outweigh the negatives. Members of research centers around the state have areas of expertise that faculty in Gainesville may not have, such as orchid production. Communication skills are always improving, and the opportunity to collaborate with a dedicated individual is exciting.

Carmen Valero-Aracama, a native of Spain, is a doctoral student working with Drs. Michael Kane (Gainesville) and Sandy Wilson (IRREC). Carmen is the recipient of both a Fulbright Scholarship and UF Alumni Fellowship. Earlier she completed her M.S. degree in Japan at Chiba University under the direction of Dr. Toyoki Kozai.

Graduate Study

She is currently studying the physiological and structural basis for low survival of *in vitro* propagated *Uniola paniculata* genotypes during *ex vitro* acclimatization.

Xiu Li Shen, a native of China, received her M.S. from the University of

Saskatchewan before coming to the University of Florida. Xiu Li is working on her dissertation under the direction of Drs. Jianjun Chen (Mid-Florida REC) and Dr. Michael Kane (Gainesville). She is examining the influence of direct and indirect somatic embryogenesis on genetic fidelity in regenerated *Dieffenbachia* cultivars.

Anne Frances, a native of Miami, received her M.S. degree from FIU in Biosci. with a focus in ethnobotany. She is working with Drs. Jeff Norcini (Quincy) and Bijan Dehgan (Gainesville) on establishment and management of native wildflowers on roadsides. Funded through a

grant received by Dr. Norcini from the Florida D.O.T., Anne's dissertation project involves both horticultural and ecological study. Sandy Wilson (IRREC) and Debbie Miller (NFREC Milton) are also on her graduate committee.

Scholarship funds awarded to Environmental Horticulture students total over $68,000 in the first half of 2004

Name	Amount	Name	Amount
Action ChapterFNGA	$ 1,100	Sweetwater Oaks Garden Club	1,500
James H. Davis	12,750	American Flora Endowment	2,000
Royal Palm, FNGA	1,500	IFAS Travel Grant	400
Bloom 'n Grow Garden Club	1,000	IFAS Scholarship	200
Muriel Rumsey Fellowship	12,000	Alumni Fellowship	15,000
Joseph Shinoda	1,000	Lisa Burton Scholarship	1,000
Bayer Scholarship	1,000	Garden Club of Halifax Country	1,000
NE Chapter FNGA	2,500	Garden Club of America	1,500
Arthur Andres	1,000	Mickey Singer Scholarship	1,000
National Foliage Foundation	5,000	Graduate Student Council	75
Orlando Garden Club	4,000	Ethyl Knapp Memorial Scholarship	500
Batson Scholarship	1,000	AAGBA Stipend	250
Jasper Joiner Scholarship	300	TOTAL	$68575

2004 Internships

Internships have become an important part of the Environmental Horticulture curriculum and extremely popular with students. Some students complete 2-3 internships during their academic career. This year 29 students from the Gainesville and Milton campuses participated in internships throughout Florida and the U.S.

Environmental Horticulture Students

Michele Albanes	Rancho La Orquidea Inc., Milton, FL
Jennifer Boldt	Whites Nursery, Chesapeake, VA
Jessica Boldt	Van Wingerden International, Ashville, NC
Austin Bryant	Ball Horticultural, Chicago, IL
Jennifer Colson	City of Gainesville, Gainesville, FL
Erin Eckhardt	Mount Vernon Gardens and Estate, Mt. Vernon, VA
Colin Friedrich	DeRoose Plants Inc., Apopka, FL
Robert Gresham	DaVosta, Palm Beach Gardens, FL
Susan Haddock	The Gourd Garden, Santa Rosa Beach, FL
Brett Minnick	San Felasco Nursery, Gainesville, FL
Lindsay Mullinax	AGCALL, Pace, FL
Tony Parmental	Tommy Aillo Landscapes, Jupiter, FL
Traci Partin	Longwood Gardens, Kennett Square, PA
Rachel Shinfeld	Amy Kee Floral Designs, San Francisco, CA
Regina Sisler	Research Internship WFREC - Jay Farm
Ashley Stonecipher	Animal Kingdom (Disney), Lake Buena Vista, FL
Lewayne White	Santa Rosa Ext Agency, Milton, FL

Turfgrass Students

Chris Adkison	Solutia Golf Club, Cantonment, FL
Jeffrey Anderson	Verandah Club, Ft. Meyers, FL
Matt Barton	Indian Bayou GCC, Destin, FL
Phillip Battle	Great Waters GC, Greensboro, GA
Eric Blinder	Grey Oaks CC, Naples, FL
Charles Daquila	Golden Hills GTC, Ocala, FL
John Fields	UF GC, Gainesville, FL
Jason Frank	TPC at Sawgrass, Ponte Vedra Beach, FL
Nick Greene	Golden Hills GTC, Ocala, FL
Austin Jones	UF GC, Gainesville, FL
Mark Leedy	Atlanta Athletic Club, Duluth, GA
Jon Paul McCartney	Old Collier GC, Naples, FL
Jesse Metcalf	WCI Tuscany Reserve, Naples, FL
John Smith	Greystone GC, Birmingham, AL
John Welsh	Oceanside CC, Ormond Beach, FL

2004 Student Trip Destination: Holland

by Dr. Sandra Wilson

May 2nd marked the beginning of the 2004 Environmental Horticulture Tour of Holland. Four faculty members, one staff member, three graduate students and 19 undergraduate students from Milton, Gainesville, Fort Pierce, and Homestead UF campuses visited seven major nursery/grower production sites, five famous museums and/or gardens, and numerous other flower markets, bulb fields, and retail garden centers of Holland.

Highlights of the trip included attending the PanAmerican Seed 2004 European Spring Pack Trials in Rijsenhout, where more than 100 new varieties were introduced, and the Hem Genetics Spring Pack Trial in Hem where exciting new series selections of *Dianthus*, *Petunia*, *Pelargonium* and *Salvia* were displayed.

Our group also learned about the breeding programs of several large Dutch growers, including Fides Goldstock Breeding in De Lier, who have become important international suppliers of high quality varieties of chrysanthemum, kalanchoe, New Guinea impatiens, fortunia and garden mum due to their integration of new breeding techniques. Micropropagation, potted orchid production, and commercial seed cleaning and sorting practices were also demonstrated at various facilities.

Many of the nurseries utilize advanced mechanization technology. Lekkerkerk Plants in Groeneweg, who breed and produce potted gerberas (and introduced the Fortune Series F1 potted gerbera), automated their facility in 2002 so that young plants can be sorted by transplanting into three sizes without human intervention. Other complete automation techniques including media potting, sorting cuttings and potted plants, sticking cuttings, transplanting, moving flats, and washing trays were seen at Perfecta Plant in Kudelstaart (foliage and rose producers) and Fides Goldstock (chrysanthemum).

At Bloemenveiling Aalsmeer the daily auction of over 19 million cut flowers in 12,000 varieties was witnessed firsthand. Other destinations included the Zuiderzee Museum in Enkhuizen, brilliant displays of over six million bulbs at Keukenhof Gardens in Lisse, the Amsterdam floating flower market, the Vincent van Gogh collection of 278 works at the Kroller-Muller Museum, and the 17th-century-style formal gardens of Paleis Het Loo.

This enjoyable international horticultural tour afforded our group a great opportunity to learn. As in previous travels to a diverse array of international destinations, no one left disappointed!

Observing advanced horticultural technology was a mjor goal of this tour.

The spring tulip display at Keukenhof is a perennial favorite.

What trip to Holland would be complete without a windmill sighting?

Alumni News

'04 Fatma Al-Saqri (PhD) has returned to Oman and is now the Diwan of the Royal Court. She conducts research and teaches at Sultan Qaboos University.

Erin Alvarez (BS) is a graduate student in the Environmental Horticulture department with advisor Dr. David Sandrock.

Peter Anuar (BS) is seeking a master's degree in Landscape Architecture at Florida International University.

Stephanie Bledsoe (nee Dickerson) (MS) and her husband Derek announce the birth of their son Jaspar Dene in September 2003.

Christina Matthews (BS) is employed by OneSource at the Hyatt Regency Grand Cypress in Orlando as a landscape supervisor.

Subhrajit Saha (MS) is a Ph.D. student in the UF Department of Forestry.

Laura Sanagorski (BS) graduated Summa Cum Laude from UF's Ft. Lauderdale ENH program and has accepted a position with the city of Plantation, FL as the urban forestry programs manager. Her primary responsibility is to implement and manage the city's long-range urban forestry management plan, which includes developing educational programs, expanding community-based planting programs, monitoring tree removal, and reevaluating city programs to reflect contemporary urban forestry management strategies.

'03 Sherie Burch (BS) is the Tree Trimming Coordinator for the City of Ocala's Electric Utility Division. She plans the work for transmission and distribution of their entire system. She is also developing a three-year plan for tree line clearance in the city of Ocala. Previously, she was employed by Progress Energy, where she coordinated their tree trimming program and handled tree removal permits. Burch is a certified arborist and conducts pesticide applications.

Allison Debatt (BS) is employed by CAMUGUSA laboratories, in Wilmington, NC.

'02 Henry Bryant (BS) and John Luc (BS) were inducted into the Honor Society of Agriculture, Gamma Sigma Delta on March 18th.

'01 Joseph Shook (BS) is employed by Jon's Nursery in Eustis, FL as a grower and propagator. He was previously employed by Imperial Nursery in Tallahassee.

'00 Morgan Brown (BS) is an assistant superintendent at Boca Grove Plantation. He supervises a 20-man crew and helps with the irrigation, fertility, and pesticide programs. He married his high school sweetheart May 2002. They love to cruise the intercoastal waterway and the Atlantic Ocean.

Karen Bishop (BS) was awarded a Masters of Landscape Architecture May 2004.

Elizabeth Ritchey (BS) is a candidate for the Master's Degree in Landscape Architecture at UF.

'99 Carol Bennett (BS) is a horticultural extension agent in St. John's County since May 2003. In her last position, she conducted research for BBC America's well-known garden makeover show "Ground Force."

Mark Highland (BS) is employed by Callaway Gardens in Pine Mountain, GA. After graduating from UF, he worked in the Oregon landscape industry, and recently has completed the graduate fellowship program at Longwood Gardens in Kennett Square, Pennsylvania.

'97 Mike Marshall (MS) was named FNGA's 2004 Young Nursery Professional of the year. Both he and Meg Niederhofer (MS '86) are directors of the International Society of Arboriculture (ISA).

'84 P.J. Klinger (BS) was named FNGA Outstanding Division Member in the Woody Ornamental Division, 2004. He is employed by Lake Brantley Plant Corp.

'67 "Taboo", Ron Garl's (BS) newest golf course in Muskoka, Ontario, Canada has been named **Best New Course in Canada in 2004** by Score magazine. He spent a year making dozens of variations on a master plan in order to achieve his goal, a course where options and strategy were key factors in every shot. Garl said "It was like going through a maze and we knew when we arrived at the finished product it would be spectacular."

'41 Joseph Crevasse (BS), former Alachua County sheriff, was honored in March 2004 for more than two decades of service to the citizens of Alachua County at the Florida Sheriff's Association Mid-Winter Conference.

FDEP Grant Awarded to Verify Turfgrass BMP's

The Florida Department of Environmental Protection (DEP) has awarded a five-year, $3.5 million grant to verify Best Management Practices (BMPs) for home lawn grasses. Home lawns are often targeted as being primary contributors to non-point source pollution of these water bodies due to the nitrogen and phosphorus found in most home lawn fertilizers. In reality, research has shown that proper lawn fertilization practices will not cause non-point source pollution. In an effort to ensure that proper fertilization and management practices are followed by the lawn care industry, BMPs have been developed for preservation of Florida's water resources.

To provide additional data, a series of experiments will look at how nitrogen rates, sources, and application timing impact non-point source pollution. Several lawn grass species will be used. The research will look at nitrate and phosphate leaching in response to different fertilizer and irrigation treatments

Research is being conducted in Gainesville, Jay, and Ft. Lauderdale under the direction of Laurie Trenholm, Jerry Sartain, Bryan Unruh, and John Cisar. Specific components of the research include:

Nitrogen rates and irrigation amounts on newly planted and established grasses

Lawn grass phosphorus requirements

Impact of fertilizer application to dormant and semi-dormant lawn grasses

Nitrogen source and timing application

Guaranteeing Quality Flowers for Consumers

Terril A. Nell and Ria T. Leonard

For consumers to plunk down discretionary dollars for fresh flowers, they want to know they're getting value for their money. The proliferation of floral outlets has made availability a non-issue; the pivotal point in consumers' minds now regarding fresh flowers is value. In a consumer's mind, stems that last and perform well in the vase equate with value — Stems that don't perform well prove frustrating and, in many cases, cause consumers to believe the failure is somehow theirs. In either case, short-lived flowers don't earn repeat customers. The fresh flower industry must conquer the many silent killers of vase life—such as microorganisms, ethylene, and water quality. Then cut flowers will become, in essence, "fresher," lasting longer in the vase and boosting consumer confidence in the value that fresh flowers offer.

The floral post-harvest program has been working to enhance flower quality and extend flower longevity. The value and importance of **C**ooling (temperature management), **C**are (harvesting and use of the proper solutions) and **C**leanliness have been demonstrated in our program and shared with growers, wholesale florists, retail florists and mass market retailers nationwide. Recently, we identified a combination of commercial products that allows the supply side of the industry to provide lilies and alstroemeria with leaves that remain green and flower that last several days longer. Flowers are treated with a solution of natural plant hormones and anti-ethylene materials. We are encouraging the floral industry to use these treatments on ALL fresh cut lilies and alstroemeria.

Proper treatment of these 'Stargazer' Lilies prevents leaf yellowing and increases vase life. Untreated stems (left) vs. treated stems (right).

Untreated Alstroemeria stems (left) vs. treated stems (right).

ENH Summer Camp (continued from pg.1)

New Age Plants: Understanding the science of genetics and the use of biotechnology in plant breeding and propagation. Students were exposed to and practiced tissue culture techniques. Campers also learned about research being conducted on-site to assist Florida's grape growers combat a variety of plant diseases that can be detrimental to the future of the grape industry in Florida.

Plant Pathology: Through field exploration and the use of microscopes, campers learned what it was like to be a plant pathologist, investigating evidence to determine the possible cause of a plant's demise and to identify the disease responsible for the damage so that correct treatment could be applied. Campers learned the differences between compound and dissecting microscopes and the proper use for each. They also had the opportunity to get up close and personal with plant diseases and fungus that are common in the central Florida area.

Biological Control and Integrated Pest Management: Appreciating the differences between good bugs and bad bugs, and understanding just what makes a pest a pest. Thanks to local faculty and the UF Entomology department outreach program many campers were helped to overcome their fear of bugs by handling live specimens in the department's traveling insect show. Watching termites trailing the ink lines they had just drawn on paper fascinated campers. They also learned about diversity within the insect world and the importance and function of various insect parts. This session concluded with the campers designing and building their own insects out of fruits and vegetables and various other materials.

Residential Landscape Design: Everyone likes an appealing landscape and many parents were excited to find out that their children were exposed to the basics of residential landscape design. The importance of plant characteristics and environment were emphasized to assist campers in plant selection for a functional yet pleasing landscape design. Campers prepared both a before and after design and were able to compare what they thought design meant and what it actually entailed. A brief walk through the teaching garden brought to life many of the concepts they had developed on paper.

Arboriculture: Putting into practice proper planting techniques and the value of pruning; campers had the opportunity to plant a tree in the teaching garden as well as learn about tree roots and how they grow. After observing a tree climbing demonstration by graduate student Scott Jones (Gainesville) they headed back to the classroom and practiced proper tree pruning techniques using illustrations on the chalk board.

Hydroponics: Whether grown commercially or for personal use, campers learned that hydroponics is a viable alternative to traditional growing methods. A video highlighted research being conducted in the Apopka area and how individuals could implement hydroponics gardening in their own back yard. They learned growing hydroponically outdoors requires consideration of the seasons, importance of plant selection and response to environment. Proper fertilization was stressed and campers were provided with instructions, their own tub, seedlings, and supplies to begin growing hydroponically at home.

Floral Design: Discovering the meaning behind particular flowers and experimenting with Ikebana. Campers learned there are many hidden meanings behind flowers and designed a virtual bouquet that expressed a special message. After a live demonstration of Oriental floral design (Ikebana) students made their own arrangement to take home.

In addition, their days included informational walks through our half-acre teaching garden, outdoor games, crafts, and other 'camp'-related activities. To fill in the gaps, we invited speakers from a local Raptor Rehabilitation clinic and the Orange County Recycling program. On Friday, one of our campers dads came in and shared his collection of snakes and did a presentation on snake handling. The program was a weeklong event from 8 am – 5pm daily. Initial feedback indicates that our collective efforts were well received. Many parents have requested advanced registration for next year.

Please visit our website at:

http://mrec.ifas.ufl.edu

to view our digital photo album
…a picture is worth a thousand words.

FACULTY FOCUS

David Sandrock
Assistant Professor (Gainesville)

David Sandrock joined the Environmental Horticulture Department, Gainesville Campus, in March of 2004 and is located on the Gainesville campus. He has a 60% teaching and 40% research appointment. David received his B.S. and M.S. in Horticulture from the University of Georgia, where he worked on the susceptibility of Leyland cypress and Atlantic white cedar to *Seiridium* and *Botryosphaeria* canker. He earned his Ph.D. in Horticulture from Oregon State University, where he worked on nitrogen use efficiency in container nurseries.

Dr. Sandrock's research will focus on establishment of native and exotic woody plants in the landscape, plant trials for north and central Florida, and he will be involved in the public gardens graduate program. David will be teaching Landscape Plant Establishment, co-teaching Landscape and Turfgrass Management, and is developing a new general education course. He is currently transforming the building at the tree unit into a classroom and developing a landscape teaching laboratory where students can gain hands-on experience.

David married his wife Jessica, a native Oregonian and fellow horticulturalist, in December 2003. They have a cat named Stella and a porch full of plants. In his spare time David enjoys cooking, gardening, drawing, stained glass, playing guitar, and mountain biking. Life is good!

Jyotsna Sharma
Assistant Professor (Quincy)

Dr. Jyotsna Sharma joined our faculty at Quincy in January 2004 with a 60%/40% research/extension appointment. Her Ph.D. degree in Plant Sciences is from the University of Missouri-Columbia. Jyotsna subsequently completed a postdoctoral term with Dr. Bill Graves at Iowa State University.

Dr. Sharma's research includes ecology, physiology, molecular ecology and propagation of rare native plants. A major focus of her current program is mitigation of contaminants in runoff from agricultural sites. She recently was awarded funding (in conjunction with Dr. Tom Yeager and other co-principal investigators from UF) from the Florida Department of Agriculture and Consumer Services Office of Agricultural Water Policy to study remediation of runoff water using native monocot species at statewide nursery sites. One major project in this grant is the evaluation of contaminant removal capacity of selected plants and associated microbes by assessing ecological interactions among microbial communities in both the rhizosphere and plant roots.

While she outlines and refines the methodology for remediation projects, Dr. Sharma is collaborating with researchers at the center and at other universities on several studies involving native woody plants. Some of these projects include assessment of nematode susceptibility and propagation of uncommon taxa using patented hormones.

Dr. Sharma also is spearheading the establishment of a botanic garden at the North Florida Research and Education Center. This is an ongoing project; several plants already have been installed in and around the retention pond as part of the first phase.

Jamie Gibson
Assistant Professor (Milton)

Dr. James L. "Jamie" Gibson is located at the West Florida Research and Education Center (WFREC) and holds a 60/40 Teaching/Research appointment. Jamie received his B.S. degree in Plant and Soil Science from West Virginia University, Morgantown and later earned his M.S. and Ph.D. degrees from North Carolina State University, Raleigh, NC in 2000 and 2003, respectively. There, under the direction of Drs. Brian E. Whipker and Paul V. Nelson, he conducted research on various floriculture crops. His Ph.D. research investigated how fertilization affected shoot and root growth of cuttings from various vegetative annual stock plants. Jamie also developed cultural requirements for ornamental kales, mustards, and chards in the Floriculture Program at NCSU.

Jamie will teach Introductory Nursery Management and Greenhouse and Nursery Crop Culture. Web-based courses currently being developed for 2005 and 2006 include: Advanced Nursery Management, Principles of Irrigation and Water Quality in Horticulture (team taught with Turfgrass Extension Specialist, Dr. Bryan Unruh), and Retail Management and Marketing in Horticulture. Dr. Gibson will be working with the WFREC Student Club to help coordinate plant sales, nursery tours, and service projects.

Jamie's research program will serve to develop production and management solutions for the ornamental plant industry. Nutrient deficiency studies with tropical perennials and retail and marketing research at Northwest Florida garden centers have become the initial projects in Jamie's Nursery Production and Management Research Program.

Dr. Bob's Gardening Tips

On the web at:
http://hort.ifas.ufl.edu
Click on "Home Gardening"

Dr. Robert J. Black, Professor Emeritus

Preparing Landscape Plants for Winter

Cold damage from frost or a hard freeze is a hazard to many outdoor plants in Florida. Even in south Florida, where temperatures seldom reach the freezing mark, cold injury can and often does occur. With proper cultural practices and several protective steps, damage from low temperatures can be minimized.

Many plants go through a "hardening" process with the onset of low temperature. Hardening is a natural protective device in plants, enabling them to survive low temperatures. Light is important in this hardening process. Plants receiving little or no light often do not develop hardiness, even with decreasing temperatures.

Most tropical and subtropical plants do not go through this hardening process, so we must use artificial means to reduce cold damage to them. Nutrition is very important to increase a plant's cold resistance. A plant that is supplied with all elements essential for growth will survive lower temperatures and recover faster. A plant suffering from a lack or imbalance of nutrients will be more susceptible to cold injury. Optimal nutrient levels should be maintained throughout the year, because most plants grow during the winter but at a slower rate. Fertilization should be reduced proportionately, say to one-third the normal rate, but should not be completely stopped. This is also true for watering. Plants require water during the winter just as they do during the rest of the year. Remember, people don't stop eating and drinking in the winter and neither do plants!

Another way to minimize cold injury is by suitable windbreaks. Windbreaks reduce wind speed and also conserve heat in an area. Evergreen plants make excellent windbreaks, and can be effectively placed so an area stays warmer than it would if it were in the open. You can thus protect some of your tender plants by placing them inside a windbreak of evergreens.

Covering materials such as cloth, polyethylene plastic and paper can also be used to reduce cold injury. These temporary coverings trap heat and maintain higher temperatures near the plant. Other materials such as leaves or soil can be piled around the base of plants to keep the stems from freezing. Leaves may be injured or even killed but these coverings may prevent the entire stem and roots from being killed.

Sprinkler systems have also been used for cold protection. A constant flow of water over the plant may be of value, however, if the supply of water is stopped or is not supplied fast enough, ice can build up and break the branches of the plant. This method is usually not suitable for homeowners, since large quantities of water are needed and most irrigation systems are inadequate.

To summarize, a good healthy plant is the best insurance against cold damage. A healthy plant means a proper fertilization and watering program are used. Use windbreaks or protective coverings for the entire plant or at least for the main stem when a cold snap is anticipated. If all fails and the plant freezes, replace it with a more cold tolerant species or grow that favorite ornamental as a pot plant which can be moved indoors on those few cold days we have in Florida.

Tropical plants such as crotons need artificial means to protect them from cold damage.

Retirements in Environmental Horticulture

After three years in the Environmental Horticulture Department, **Dr. Everett Emino**, who came to ENH in 2001 from a position as IFAS Assistant Dean for Research, has retired to Nova Scotia. Dr. Emino, who originally hails from there, will devote his time to his family and farmstead, which includes keeping up its 100-year-old-plus farmhouse. In ENH, he was involved in floriculture research and was greatly interested in keeping Florida cut flower growers economically viable in the face of foreign competition. His 2003 sunflower trials at UF were very popular with horticulturists and cut flower growers. Dr. Emino got his M.S. and Ph.D. degrees from the Michigan State University. Come back to Florida to warm up anytime, Everett!

Mary Ann Andrews checking out a gift at her recent retirement party.

Much to the sadness of faculty, staff and students of Environmental Horticulture, Office Manager **Mary Ann Andrews** has retired to private life. All of us have greatly benefited from her expertise and kind helpfulness over a span of nearly twenty years in our department.

Before coming to Environmental Horticulture, Mary Ann worked in various positions at UF, including Poultry Science, the Education Department, as well as the IFAS Deans' Office. Mary Ann was treated to a great outpouring of affection at her recent retirement party from all those who have had the pleasure of working with her. Mary Ann's plans are many, and include a bit of traveling, gardening, gourmet cooking and baking, just a few of her many and varied talents. We hope she'll find time in her busy schedule to visit. Mary Ann...we already miss you!

Upcoming Events

2004 Poinsettia Field Days
UF Environmental Horticulture
Gainesville, FL
December 7&9, 2004
URL: **http://hort.ifas.ufl.edu/pointfieldday2004**

Great Southern Tree Conference
UF Environmental Horticulture Dep't.
Gainesville, FL
December 2-3, 2004
URL:**http://www.greatsoutherntreeconference.org/**

Tropical Plant Industry Exhibition
Broward County Convention Center
Ft. Lauderdale, FL
January 20-22, 2005
URL:**http://www.fngla.org/tpie/general.asp**

Come see us at Booth # 713!

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