



Environmental Horticulture **NEWS**

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Chairman's Message - Terril A. Nell

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Environmental Horticulture Programs Address Florida's Current and Future Issues

Our rapidly urbanizing state faces many environmental challenges, including assuring adequate water supplies for human consumption and agriculture, protection of surface and underground aquifers and preservation of our special environment and landscapes. The Environmental Horticulture faculty, staff and graduate students statewide have joined together to determine the optimum amounts of water and fertilizers for residential lawns and landscapes and the fate of fertilizer nutrients once applied to turfgrass and landscape plants. Faculty at Milton, Gainesville, Plant City, Apopka and Ft. Lauderdale launched a five-year program to determine the amounts of water to establish a wide variety of landscape plants. We are grateful to the Florida Department of Agriculture and Consumer Services and three water management districts (South Florida, St. Johns and Southwest Florida) and the Florida Nursery Growers Landscape Association for supporting this project. With the support of the Florida Department of Environmental Protection, faculty in Milton, Gainesville and Ft. Lauderdale have begun a five-year project to address a broad range of issues related to management of turfgrass. The initial study looks at the amounts of water needed to establish and maintain four of the major turfgrass species. These statewide projects are critical to the future of Florida - we are approaching these major issues with a systematic and integrated plan that includes bringing this new information to the residents of Florida through effective extension programs and joint educational programs with many of the supporting agencies and industry. Of course, these environmental findings will be included in undergraduate and graduate classes so our graduates are prepared to address the problems of the future with the very best scientific information. In this way, our faculty provides the vision and scientific facts for the future, thus assuring that lawns and landscapes are recognized as part of the solution to protecting the environment and preserving our natural resources, and University of Florida alumni are prepared to guide future turfgrass and landscape development.

Terril A. Nell

ENH Research Highlight: Keeping it clean for long-lasting flowers

Andrew J. Macnish, Ria T. Leonard and Terril A. Nell

American consumers value flower quality very highly when purchasing fresh cut flowers. The challenge for the floral industry is to consistently deliver high quality and long-lasting flowers.

Harvesting and shipping operations place tremendous stress on flowers. To remain alive and functional, harvested flowers need intensive care. Growers, wholesalers, retailers and consumers all play a vital role in administering flower life-support. Keeping flowers cool and hydrated is critical for extending display life. However, maintaining flowers in a clean environment is equally important.

Just like in a hospital emergency room, ensuring that all instruments are sterile is essential for preventing bacterial infection and death.

Poor sanitation is widely accepted as a major factor in the transmission of bacterial disease. Bacteria lurk on the surfaces



Cut *Gerbera jamesonii* 'Monarch' flowers after ten days in deionized water containing either 0 (left) or 10 (right) ppm chlorine dioxide.

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STUDENT NEWS

University of Florida Student Named Intern of the Year

Laura Alexander

Students Design Project for President's Home

This past spring the students of the Environmental Horticulture department designed and installed a landscape project for the President's residence on campus. As a part of National Agriculture week the students were involved in and lead a service learning project with the College of Agricultural and Life Sciences. The planning process began in late 2004 when the undergraduate club was approached by Mrs. Machen to help clean up the conservation area behind the president's residence which had extensive damage due to the two hurricanes that passed through Gainesville in 2004. The job was a little overwhelming but with other departments in CALS assisting a good amount of progress was seen. The main focus of our students was to design a natural landscape around the Gazebo which is a focal point in the back yard. Graduate student Erin Alvarez created a design to fit the surrounding space and compliment the gazebo. On Sunday March 20th ENH students supervised 35 student volunteers from CALS in planting the area. They also renovated the landscape surrounding the outside patio and

BBQ area near a small creek that runs through the property. It was a great learning opportunity for our students who were able to see a landscape develop from the planning stages to the final installation. They were also able to practice their supervisory and teaching skills by working with students from other majors.



Jessica Boldt, a senior in the Environmental Horticulture program, has been named the 2004 GPN/Nexus Intern of the Year for her work at White's Nursery and Greenhouses last summer. Boldt's love of horticulture began at an early age as she helped out in her parent's small nursery, South Brevard Nursery in Melbourne, Fla.

When the time came for Boldt to complete an internship, she and her advisor, Dr. James Barrett, decided it would be best to get some experience at a large-scale operation. Boldt, a recipient of the Vic and Margaret Ball Internship Scholarship was soon on her way to a six-month internship at White's Nursery and Greenhouses in Chesapeake, Virginia.

It didn't take long for Boldt's dedication and skill to impress her supervisors. Among her many experiences at the nursery, Boldt was put in charge of her own work crew.

"Being in charge of a work crew was a very challenging, but rewarding, experience," Boldt said. "I was given the responsibility to complete a task and given guidelines on what to accomplish, but I had to figure out how to get it done." Although it wasn't always easy, Boldt said that working her way through difficult situations was one of the most valuable experiences of her internship.

"I had to decide whether to say the tasks I was given were too hard or to give it my all and learn from my mistakes," Boldt said. "I decided to take on the challenges, and I am amazed at how much I learned and how well everything turned out."

Boldt will complete her undergraduate degree this December. She plans to continue her education at UF by working towards a M.S. in Horticulture.

UF Students Compete at ALCA

David Sandrock



Nine of our best students attended the 29th annual ALCA (Association of Landscape Contractors of America, now PLANET) Student Career Days (March 18-22) at the University of Maryland. David Sandrock and graduate student Erin Alvarez were advisors for the event. There were 781 students representing 54 schools participating. UF students attended workshops, competed in land-

scape events (23 different events) and participated in the career fair (84 firms represented at the career fair). Student Career Days is a great opportunity for students to interview with potential employers as well as meet students from other colleges and universities. Students attending and the events they competed in were: Lauren Schulman (Interior and exterior landscape design, Interior plant ID), Alina Lovelace (Wood construction, Interior plant ID), Jason Lee (Compact utility loader operation, Safety management), John Burns (Wood construction, Irrigation assembly, Plant installation), Justin Sklaroff (Arboriculture techniques, Safety management), David Barnard (Arboriculture techniques), Neil Greishaw (Irrigation assembly, Annual and perennial ID), Sam Sampson (Paver installation, Plant installation) and Jared Berryman (Paver installation, Plant installation). The team learned a lot about Student Career Days and is already preparing for next year's event at Brigham Young University, March 23-26, in Provo, Utah. For more information about Student Career Days go to:

www.studentcareerdays.org

Or, you may contact Dr. David Sandrock at dsandrock@ifas.ufl.edu.

Gator Grad Grabs Prestigious Award

Laura Alexander



Recent Environmental Horticulture graduate Grace Chapman has been named the Martin McLaren 2005-2006 scholar. The McLaren scholarship, which is sponsored by the Garden Clubs of America, allows one American student each year to complete a work-study program in Great Britain. Over the course of a year, Chapman will participate in

study, research, and work projects at gardens in Scotland, England and Wales, including the Royal Botanic Gardens at Kew and Edinburgh. "I'll spend my time studying the plant conservation techniques that are used in botanic gardens in the UK," said Chapman. These methods include propagation, tissue culture, seed collection, and seed banking.

Chapman will depart for the UK in September, but until then she is in Kennett Square, PA participating in an internship at Longwood Gardens. "I'm thrilled that I'll be around some of the greatest horticultural minds in the world," said Chapman. "I plan to learn as much as I can from these talented people."

"Colors of Spring"

On April 2nd and 3rd the graduate and undergraduate student clubs worked together to put on the first annual *Colors of Spring* festival. This included a themed garden display with a water feature built by the students, a speakers program and a plant sale. The planning for this event started early in January, with students working on marketing and design strategies and beginning crop production. This year, the clubs propagated and grew out plant materials for their sale in conjunction with requesting donations from nurseries around the state of Florida. The entire event was a huge success. It was well attended by the general public who were able to get gardening tips from horticulture professionals and students, as well as purchase beautiful landscape plants. Plans have already begun for next year's event, which will be even bigger and better. For more information see the student clubs' websites:

<http://hort.ifas.ufl.edu/hortclub/>
and
<http://hort.ifas.ufl.edu/ehgsa/>



Yvonne Arwood, design team leader for the student club plant sale.

ENH Scholarship Corner

Scholarships awarded between July 1, 2004 and June 2005

American Orchid Soc.	3,000	Edgar A. Martin	1,000
Agriculture Women's Club	500	GCSAA	500
AABGA Student Travel Grant	450	IFAS Travel Grant	800
Arbiculture & Res & Ed Acad.	500	IPPS Travel Grant	700
Arthur Andres Memorial Fund	5,000	James H. Davis Memorial	
ASHS	1,500	- Palm Beach/Martin County	10,000
Bartlett Tree	3,000	James H. Davis/National Foliage Fdn.	13,000
Batson	14,000	Lisa Burton Memorial	1,000
Bayer Scholarship	1,000	Lawn & Garden Marketing	1,500
Bloom 'N Grow Garden Soc.	2,000	Max J. McQuade Memorial	1,500
Bobby F. McKown	1,000	Men's Garden Club of Jacksonville	1,200
Brannan Family	2,000	IPPS Oral Competition	500
Charles Shinn Jr. Memorial	3,000	Orlando Garden Club	2,000
Charles M. Palmer & Thelma Mered	6,000	Seymour Goldweber School	1,000
Davey Tree Expert	1,000	Phelps	13,900
Fla. Federation of Garden Clubs	6,250	Plant City Chamber of Commerce	2,000
FL Turfgrass	1,000	Joseph Shinoda Memorial	1,600
FL Rural Rehabilitation Corp.	4,000	Sidney B. Meadows	5,000
FIRST	500	Sweetwater Oaks	1,500
FNGLA*	19,500	Windermere Garden	2,500
		<u>William F. Ward Memorial</u>	<u>1,200</u>
		TOTAL	\$ 138,600

TWO UF STUDENTS WIN RESEARCH COMPETITION

Two University of Florida-Milton students brought home second and third place awards from the Bryson L. James Student Research Competition recently held at the 50th Annual Southern Nursery Association Research Conference in Atlanta. The annual contest evaluates students on written and oral presentations pertaining to their original research projects. Entries must be unique and significant to the nursery industry.

Ranking second place among undergraduates, Lindsay Mullinax was awarded \$300 for her research presentation on plant growth regulators. Third place winner Kim Strickland was awarded \$200 for her presentation on nutrient deficiencies of Dwarf Creeping Chenille.

Both students are studying for their undergraduate degrees in Landscape and Nursery Horticulture at our Milton, FL campus and work in the horticulture field. Mullinax is employed by The Home Depot as a plant specialist and Strickland works for Plant Development Services, Inc., in Loxley, AL.

"This is really something to be proud of," said James Gibson, assistant professor of Environmental Horticulture at UF - Milton, who supervised the research. "They made a tremendous sacrifice balancing classes and work to do the research and they managed their time well. With this research they are helping to solve problems within the industry."



Lindsay Mullinax (left) and Kim Strickland (right) won recognition in the Bryson James Research Competition

2005 Student Trip Destination: The Pacific Northwest

Oregon, Washington State and Vancouver, British Columbia were the destination for the 2005 Environmental Horticulture nursery and garden tour. Four faculty and two staff members, 1 post doc, 6 graduate students, and 16 undergraduates from the Apopka, Gainesville, Milton and Plant City campuses visited 6 nursery operations, 5 gardens, 1 retail garden center, an agricultural research center and a rain forest.

Some of the highlights of the trip included a visit to the 1000 acre site of Monrovia Nursery in Dayton, Oregon. We were given an extensive tour of their production and shipping areas and were able to see first hand their patented pruning machine in use. Production included perennials, broadleaf plants, conifers, and perennial trees. Monrovia also has a beautiful display garden that we enjoyed strolling through and experiencing the great plant palette of the northwest. Other nurseries visited were Blooming Nursery specializing in perennial production, Clackamas a family operated business growing bedding and potted plants, perennials, and hanging baskets, Washington Bulb specializing in cut flowers and bulb plants such as tulips, iris, and daffodils and Molbaks a wholesale and retail family owned facility. After visiting Molbaks wholesale site we were given an extensive tour of their retail store and learned about their history and business philosophy. The retail garden center was unlike any seen before and included an extensive array of plant materials, containers, patio furniture, home goods, water features, statuary, and a restaurant with seating around a beautiful fountain and indoor garden. A buyer could spend an entire day browsing through the 15 acre site which has evolved into a tourist destination, attracting over one million visitors each year.

There was a common theme at all of the nurseries we visited where we saw water conservation (all had water retention sites), energy conservation, and most had some type of display or trial garden at their location. We were not disappointed when we visited Heronswood Nursery owned by plantsman Dan Hinkley. Heronswood proved to be a horticulturists dream. We were overwhelmed as we walked from greenhouse to greenhouse observing plant specimens never before seen by our eyes. An additional treat was to walk through the display gardens on the Heronswood properties and see some of the same materials growing in the landscape.

We also visited the Mid-Columbia OSU Extension Center where we observed fruit production of apples, pears, and cherries and were later taken to visit with a local 3rd generation farmer specializing in pears and cherries.

Along the way we visited many different botanic gardens. Washington Park which featured a rose garden, Japanese garden, and arboretum, Bellevue Botanical Gardens comprised of 36 acres of display gardens, woodlands, meadows and wetlands, The Rhododendron Species Garden, the Horticulture Centre of the Pacific and Butchart Gardens. Each Garden had something unique and special to offer but Butchart took our breath away! The garden provided sensory overload with amazing color schemes, plant textures, and scents. Tulips and spring bulbs were in bloom and we saw a lot of "wow"!

A special treat was to visit the Vancouver Island Rainforest with a knowledgeable guide who was native to the area. As she walked us through the forest she pointed out many plants that were edible or had medicinal properties. Our walk through the forest took us out to the cliffs overlooking a bay. We were amazed at the view and as we ventured closer to the waters edge we noticed large numbers of purple starfish and other sea creatures.

This year's destination proved to be an enjoyable and educational trip for all as we experienced the local cultures, sights and best of all horticultural offerings of the region.



Students at Butchart Gardens in Victoria, B.C., Canada



Alina Lovelace and Jeffrey Andersen at Clackamas Greenhouses in Aurora, Oregon.



The display garden at Monrovia Nursery in Dayton, Oregon.



Richard Roozen, an owner of Washington Bulb Company in the Skagit Valley, giving a tour to our students.

PEOPLE

FOCUS FOCUS FOCUS



ANDREW MACNISH
Postdoctoral Associate
(Gainesville)

Dr Andrew Macnish joined the Environmental Horticulture Department at the Gainesville Campus in October 2004. Andrew is a Postdoctoral Associate working under Department Chair, Dr Terril Nell, in the floriculture postharvest group.

Andrew, a native from “Down Under,” received his Ph.D. in Horticultural Science from The University of Queensland in Australia. His doctoral research investigated the physiology and anatomy of postharvest flower drop from Geraldton waxflower, an Australian wildflower. Andrew subsequently completed a postdoctoral fellowship at Cranfield University and Rothamsted Research in the United Kingdom. There, his research was directed at identifying the chemical nature and activity of compounds in plants with potential for use as biocides.

Andrew’s research at Gainesville is focusing on understanding and improving water uptake processes by fresh cut flowers. Many of the cut flowers purchased in

the USA have been exported dry over long distances from farms in Central America. Their ability to re-hydrate often governs the duration of vase life in the home. Andrew’s work will identify key steps that currently limit the longevity of these flowers. In partnership with industry, he will develop and test protocols with potential to improve hydration and thereby lead to long-lasting fresh cut flowers for consumers.

When not working in the lab, Andrew hopes to travel around and take in as much of Florida and the USA as possible. Discovering the local flora and fauna is a particular interest. He is also keen to learn the ins and outs of American sports - football, baseball, basketball, hockey, rodeo and even mud-bogging!



BARBRA LARSON
FYN Statewide Coordinator
(Gainesville)

Barbra Larson joined the department in June 2004 as the state coordinator for the Florida Yards and Neighborhoods program. She was previously working in the Entomology and Nematology Department, most recently with the *IPM Florida* program and earlier on a research and extension program in biological control of a weevil pest of native Florida bromeliads.

After growing up in New Jersey, she went to Massachusetts for her undergraduate studies, completing a double major in biology and an interdisciplinary program in international development at Amherst College. After working in the Peace Corps for two years delivering environmental education programs to teachers and the public in Guatemala, she began a master’s program in entomology at Rutgers University, focusing on Integrated Pest Management and biological control. She taught biology at the Universidad del Valle in Guatemala City for one year and then came to Florida to complete a Ph.D. program in entomology, where her research focused on pest and beneficial populations in small-scale tropical intercropping systems. After graduating, she wrote crop profiles for the Pesticide Information Office before returning to the Entomology Department for her post-doctoral work with the bromeliad project.

Since starting with FYN, Barbra has spent much of her time managing the grants from FDEP that the program receives, getting to know the county FYN coordinators and their programs, and strengthening partnerships with other organizations working in water quality, resource conservation and urban horticulture. She is grateful for the teamwork and dedication of the entire FYN group (Patty Connolly, Gale Robinson and Holly Shiralipour in the state FYN office and all of the county FYN coordinators), whose efforts are helping more Floridians every day to make their landscaping more sustainable. Future plans for FYN include securing additional funding mechanisms for the state office and additional county programs, expanding the state website to provide more information to county FYN coordinators and the various audiences of FYN, and adapting materials to specific audiences. When not working with FYN, Barbra spends time with her two children (2nd and 6th grade boys) and their new dog.

FACULTY AND STAFF NEWS

Notes from the Plant Restoration, Conservation, Propagation Biotechnology Program

Scott Stewart and Dr. Mike Kane were awarded research grants from the San Diego County Orchid Society and Florida Department of Forestry to conduct ecological, conservation, pollination biology and propagation research on the imperiled Florida Orchidaceae: *Habenaria distans*, *H. macroceratitis*, and *Spiranthes floridana*. A cooperative agreement with U.S. Fish & Wildlife Service has also been established to fund various aspects of the program's Florida native orchid research.

Dr. Mike Kane presented three invited talks since spring 2005:

"Bridging the Gap between Horticulture and Ecology: Applications of In Vitro Native Plant Propagation for Coastal Dune Stabilization" - Florida Native Plant Society, Vero Beach, April 21.

"Publishing Realistic Micropropagation Protocols" - The Society for In Vitro Biology 2005 annual meeting in Baltimore, Maryland, June 3-8.

"Current Status and Impact of Commercial Plant Tissue Culture" - ASHS Workshop: Tissue Culture and Its Increasing In The Nursery Industry - Las Vegas, Nevada, July 21.

Phil Kauth presented a component of his Master's research with Florida native terrestrial orchids in a talk entitled "In Vitro Germination and Seedling Development of *Calopogon tuberosus*" at the Society for In Vitro Biology 2005 annual meeting Baltimore, Maryland, June 3 - 8. Phil was co-mentored by Dr. Mike Kane and Dr. Wagner Vendrame, who is located at the Tropical Research & Education Center, Homestead, FL.

Scott Stewart presented a component of his dissertation research with Florida native terrestrial orchids in a talk entitled "In Vitro Seed Germination and Seedling Development of *Habenaria macroceratitis*, an Endangered Terrestrial Orchid" at the 2005 Society for In Vitro Biology annual meeting held in Baltimore, Maryland, June 3rd-8th.



The subject of Scott Stewart's presentation was *Habenaria macroceratitis*, a native Florida orchid.



Dr. Carrie Reinhardt Adams is our new Assistant Professor of Landscape Ecology. Her Ph.D. in Horticulture Science/Water Resources Science is from the Univ. Minnesota. Carrie will be working in landscape and restoration ecology.

Dr. Rick Schoellhorn, professor of floriculture, has taken a position with Proven Winners, a worldwide plant marketing firm.

Judy Wilson, a secretary in ENH since 1985, served as liaison to our students, assisting them in acquiring scholarships, internships and grants, among other core functions. Judy retired from Environmental Horticulture this past December. Her successor is Marcie Siegler, recently relocated from Lewisburg, Pennsylvania, where she worked for 28 years at Bucknell University. She can be reached at (352) 392-1831 x 204 or e-mailed at: msiegler@ufl.edu

Dr. David Sandrock has accepted an assistant professor's position at Oregon State University, and will be relocating at the end of the year.

Dr. Dennis B. McConnell, a member of Environmental Horticulture for more than 30 years, retired in July. He has been in Gainesville since March 1973, when he left his position as a foliage extension specialist at Apopka to come to Gainesville as a research and teaching professor. Over the years Dr. McConnell taught several courses at UF including "Interior Landscape Practices," "Exotic Plant Identification," "Foliage Plant Production" and the more recent and popular "Plants, Gardens and You." His research emphasized anatomical and developmental changes in plant leaves in response to environmental factors, and more recently, biomineralization in plants. Dr. McConnell's doctorate is from the University of Wisconsin, Madison.

Jan Weinbrecht, who managed the Turfgrass Envirotron since its inception, has taken a position in the Agronomy Dept. and will be working at their facility at Pine Acres. His former position was filled by Jason Haugh, our Farm Manager. We wish to welcome Joe Vasquez as our new Farm Manager.

UF-Apopka researcher Richard Beeson receives Porter Henegar Award for Horticultural Research.

"In 1969, an Award of Merit was created to honor those individuals who had made outstanding contributions to ornamental horticultural research and, more specifically, to SNA. The recipient is selected annually by fellow research workers for his/her concern and work toward improving the nursery industry." -SNA

Terril Nell Awarded by FSFA

Dr. Terril A. Nell, Professor and Chairman of Environmental Horticulture, was honored at the Florida State Florists' Association annual convention in Orlando in early June with the presentation of the "Place in the Sun" Hall of Fame Award, which is presented to two individuals each year, a Florida State and a National recipient. The "Place in the Sun" award was created in 1978 as a permanent means for the Florida floral industry to recognize its leaders and to encourage high standards of service and professional responsibility.



Tom Butler (right), chairman of Teleflora, presenting Terril and Cathy Nell, with the Florida State Florists' Association's 2005 "A Place in the Sun" Hall of Fame Award.

Teachers' Plant Tissue Culture Workshop A Great Success!

For the third year Dr. Mike Kane taught the four-day workshop *Introducing Plant Tissue Culture into the Classroom*. The workshop was held from July 25 -28th in Gainesville. Through a series of lectures and intensive laboratories experiences, 16 faculty from high schools, community colleges and universities from around the United States learned important strategies for incorporating plant tissue culture into their curricula. "This workshop would not have been possible without the generous financial support from several Florida commercial tissue culture labs, including AgriStarts I & II and Oglesby Plants International, and donation of various teaching kits from Carolina Biological Supply Company," says Kane.



ENH Research Highlight

(continued from front pg.)

of buckets, vases, cutters, benches and flower stems. They can easily build up in hydration and vase solutions without even being visible. This bacterial 'soup' enters and plugs stem ends, thereby reducing water supply to flower blooms and accelerating wilting. Bacterial contamination of flower stems can be prevented by maintaining good hygiene - for example, cleaning of buckets, vases and cutters with commercial antibacterial and sterilizing agents.

The floriculture postharvest program at the University of Florida is currently developing and evaluating "Best Practices" for growers, wholesalers, retailers and consumers that assure maximum flower quality and longevity. A major part of our research is directed at improving sanitation during postharvest handling.

Recently, we tested the potential of a novel and stable form of chlorine dioxide to extend the longevity of cut *Gerbera jamesonii* 'Monarch' flowers. Including just ten parts per million of chlorine dioxide in vase water increased vase life of *Gerbera* flowers from ten days (i.e. deionized water control) to 14 days. The chlorine dioxide treatment delayed the build-up of stem-plugging bacteria in vase solutions.

These results highlight the great potential for chlorine dioxide to extend the postharvest longevity of cut flowers such as *Gerbera* that have a reputation for contaminating vase water. Further tests examining the use of chlorine dioxide at different steps along the distribution chain are being conducted in our laboratory. Our work also shows that applied research can make a real difference and equip industry with the tools to consistently provide fresh, long-lasting flowers to consumers.

Florida Yards and Neighborhoods Program

Barbra Larson

For over 10 years, the Florida Yards & Neighborhoods (FYN) program has been teaching Floridians about environmentally sustainable landscaping practices. FYN is now active in 43 counties, with the newest program starting up this year in the Okeechobee region. Twenty-one counties use Master Gardeners as Florida Yard Advisors, assisting with educational programs, FYN demonstration gardens, and home visits to recognize Florida-friendly landscaping. From 2000 to mid-2005, more than 2,000 Florida Yards were recognized in 25 counties.

FYN programming is increasingly targeted to professionals with a role in design, installation and maintenance of landscapes in addition to its initial focus on homeowners. Incorporating the principles of FYN from the planning stage of new development encourages greater adoption of sustainable landscaping practices in Florida, one of the fastest growing states. FYN now has a Builder and Developer State Coordinator, who provides materials and resources to county FYN programs involved in advising and recognizing Florida-friendly landscaping for new construction.

Over the last decade, water quality funding from EPA, through FDEP, has provided seed money to hire FYN coordinators in many counties. 22 county extension offices now have FYN positions that are funded beyond FDEP and UF/IFAS Extension funds, with water management districts, utilities and local governments playing a key role. Strong support from both Horticulture Extension Agents and Master Gardeners has also helped the program to reach large numbers of homeowners and professionals. One of FYN's major strengths is its collaboration with diverse organizations sharing similar educational goals: the Southwest FL Water Mgmt. District is adopting FYN materials and supporting new materials development for a unified message, and the FDEP Springs Initiative is supporting a new consumer-oriented website on Florida-friendly landscaping in collaboration with FYN.

Master Gardener Information and Update

Tom Wichman

The Florida Master Gardener Program, since its inception in 1979 has grown and thrived throughout the state. This volunteer program, for people interested in gardening and horticulture, is active in 56 of Florida's 67 counties. It provides gardeners with intensive education in home horticultural principles. Participants who complete the program are certified as master gardeners by the Florida Extension Service.

Following the training, Master Gardeners are required to donate 50-100 hours of volunteer time within a one-year period. This service include answering gardening questions, conducting plant clinics, beautifying the community, and other horticultural activities.

The program now has over 3,700 volunteers who in 2004 alone donated over 340,000 hours to the citizens of Florida, valued at almost \$6 million, helping almost 622,000 individuals. We continue to increase the number of volunteers, hope to add the remaining Florida's counties, and wish to utilize the latest technologies to train and educate our volunteers.

Each year, we hold a continued training conference for the master gardeners in either Gainesville or various locations throughout the state. Beginning in 2006 a midyear update for our volunteers will utilize the PolyCom distance education system located around the state. These learning opportunities, along with regional trainings, keep our volunteers up-to-date and make them some of the best educated master gardener volunteers in the country.

If you are interested in becoming a Master Gardener, contact your local county extension office or visit:

<http://hort.ifas.ufl.edu/mg>

Dr. Bob's Gardening Tips

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

Dr. Robert J. Black, Professor Emeritus



Winter Flowering Annuals

It's time to get out of the summer doldrums and start thinking about gardening. Get set to go! It's about time to plant winter flowering annuals.

Many of the annual flowers which thrive in northern gardens can be successfully grown in Florida. However, the season at which they are grown is quite different. Most annuals are classified into two groups - cool season and warm season annuals. Florida's cool season is from October to April, thus we grow many annuals during the winter which would normally be planted in the spring in northern states. As long as the proper planting time is considered, home gardeners can produce many colorful annuals all winter long. Remember, however, the cool season annuals you plant in the fall must be able to endure frost if they are planted outdoors. Annuals which can be planted in September to October include sweet alyssum, browallia, calendula, candytuft, gaillardia, gypsophila, nasturtium, pansy, petunia, snapdragon, phlox, sweet-pea, ornamental cabbage and viola.

Annuals have numerous uses in the garden. They are probably best displayed in front of shrubbery borders. By choosing annuals of different heights, deep flower borders can be produced. Plant the taller species at the rear and progressively shorter varieties in front. Use colors which blend well and avoid too many

varieties having different colors. Beds should be large enough so that flowers can be cut and used to provide winter color indoors. Many low growing annuals make effective edgings for walks and drives and don't forget to use annuals for window boxes and porch gardening.

Annuals can be planted as seeds or obtained as bedding plants which can be transplanted into the garden. Bedding plants are usually available at reasonable prices and offer flowers quicker than growing your own plants from seed.

When buying seeds, you get what you pay for. Seeds of named varieties of a specified color are more expensive than color mixtures. The latter should not be expected to produce flowers of as high a quality as the more expensive seeds. If possible, plant seeds after the rainy season ends because small seeds may be easily washed away. The other alternative is to start plants in flats so they can be moved to shelter during rain storms. Some annuals such as nasturtiums and sweet peas, however, should be planted directly where they are to grow because they are difficult to transplant successfully.

Keep a careful watch on young annuals. Their roots are shallow so watering is necessary until they are well established. Pests must also be kept under control.

To produce compact, bushy plants, pinch off the top pair of leaves after seedlings have at least three pairs of leaves. This will produce lateral branches and better quality plants.

Most seed packages contain directions for planting and care of annuals, but experience is the best teacher. The gardener who learns how to successfully grow annuals will produce magnificent color in his winter garden. So color it with flowers, Florida!



Pot Marigold, *Calendula officinale*



Ornamental Cabbage, *Brassica oleracea*



Pansy, *Viola X wittrockiana*



Snapdragon, *Antirrhinum majus*



Petunia, *Petunia hybrida*

Upcoming Events

2005 Poinsettia Field Days

UF Environmental Horticulture
Gainesville, FL
December 6&8, 2005
contact: Carolyn Bartuska (cbartuska@ifas.ufl.edu)

Great Southern Tree Conference

UF Environmental Horticulture Dep't.
Gainesville, FL
December 1-2, 2005
URL: <http://www.fngla.org/gstree/gen-info.asp>

Tropical Plant Industry Exhibition

Broward County Convention Center
Ft. Lauderdale, FL
January 19-21, 2006
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