Environmental Horticulture NEWS

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

Message from the Chairman
Terril A. Nell

As I visit with members of the industry and alumni and attend various industry meetings and trade shows, I am often asked– "what is new at the University of Florida and in Environmental Horticulture?" Our department and UF/IFAS are **changing** to adapt to the current economic challenge and a state that is rapidly urbanizing. Florida has many new needs that can only be met through sound scientific research and the addition of "society-ready graduates." Likewise, environmental horticulture and turfgrass businesses are adapting to new markets, new regulations and a challenging business environment. **Change** is everywhere - especially in Environmental Horticulture! Allow me to elaborate!

- Our turfgrass, landscape, annual/perennial and arboriculture research is moving to a recently developed unit south of Gainesville.
- In three years, turfgrass research at Ft. Lauderdale is relocating to the Research and Education Center(REC) at Immokalee.
- Thanks to a generous donation from United Greenhouse Systems, we are building a "state-of-the-art" teaching greenhouse in Gainesville.
- The Florida Nursery and Growers Association (FNGA) - Dade Chapter, individual industry representatives and the National Foliage Foundation (NFF) have funded a teaching greenhouse at the Tropical REC at Homestead.
- We have recently hired a plant breeder for caladiums and gerberas at the Gulf Coast REC at Bradenton and a landscape horticulture teaching/research faculty for our newest teaching program on the Plant City campus of Hillsborough Community College.
- We will add teaching faculty at our Milton and Gainesville campuses and a researcher in woody ornamental plant production at Quincy this year.

However, the biggest **change** is the addition of newly renovated office and laboratory facilities and future conference center at Mehrhof Hall, former home of Poultry Science. This ample facility enables us to expand our rapidly growing research, teaching and extension programs in landscape horticulture, arboriculture, consumer horticulture and landscape ecology.

These statewide **changes** are strengthening our programs. As always, growth would be impossible without continued funding from the industries we serve, state and federal agencies and the UF/IFAS administration. We all appreciate and value this support! Remember, **change** is good!

"We Start Growing Our Scientists Early" in Environmental Horticulture!

Christopher Hamilton, son of Becky Hamilton, a Senior Biological Scientist in the Environmental Horticulture Department, studied the effect of shipping on coleus cutting quality with the help of horticulture professor Dr. Everett Emino for his award-winning 7th grade science project. He first determined the effect of stored carbohydrates on rooting , followed by the effect on rooting of reduced photosynthetic capacity. He then placed cuttings under simulated shipping conditions (darkness at 22C) for up to seven days. He concluded that coleus cuttings decrease in quality as stored food reserves are used and leaf photosynthetic capacity is lost due to chlorophyll degradation in simulated shipping. The science fair project won first place at St. Patrick's Catholic School. After the science fair was concluded, Chris prepared the work for presentation at the Florida State Horticultural Society annual meeting in June in Marco Island. The paper based on the project, entitled "The influence of cutting size, leaf area and shipping on Coleus cutting quality parameters including rooting" and authored by C.J. Hamilton, E.R. Emino and C.A. Bartuska will appear in the next issue of *Proceedings of the Florida State Horticultural Society*.

Christopher Hamilton prepares an experiment with Coleus *cuttings for his award-winning science fair project*

In This Issue:

Research Highlights

Novel Approaches To Restore, Enhance and Conserve Florida Native Landscapes

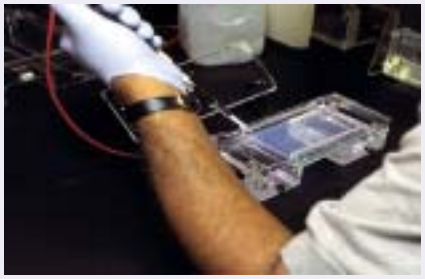
Dr. Mike Kane

Florida's Fragile Environment

One typically envisions environmental horticulture as involving the production, planting and maintenance of ornamental plants. Since 1985, Professor Mike Kane, his Biological Scientist Nancy Philman, and numerous graduate students have broadened this to include the selection and production of native plants to preserve, protect and restore Florida's native wetland and coastal landscapes. You might ask: Why is this important? Dr. Kane believes that Florida's wetland and coastal environments are of critical importance to the ecological and economic well being of the state. Although now recognized as being important for maintaining water quality, recharging groundwater, providing unique wildlife habitats and storing floodwaters, more than 90% of Florida's wetlands have been either destroyed or negatively impacted. Florida's beach and coastal dune systems are also of significant economic and ecologic importance. Beach-related tourism contributes about $15 billion to the state economy each year. 75% of Florida's population resides in the 35 coastal counties. Besides providing unique wildlife habitat, Florida's coastal dune system also serves as a natural defense system against erosion from hurricanes and human activity. As of 1998, about 350 of Florida's 800 miles of sandy beaches were in a critical state of erosion. This condition has increased the risk of catastrophic economic damage following storm events.

The "Growing" Dilemma

Selection and planting native plant species is a major task in most landscape restoration projects. Federal and State agencies require rehabilitation or mitigation (replacement) of degraded or destroyed wetlands through extensive planting of native herbaceous and woody wetland species. Similarly, beach re-nourishment, followed by planting of native dune species, especially sea oats (*Uniola paniculata*), has proven to be the most cost-effective practice to stabilize and build dunes. The market for native plants useful in habitat restoration has stimulated a rapid development of the native plant nursery industry. Native plants used for landscape restoration are obtained from several sources: 1) bare-root transplants collected from natural populations; 2) seeds and vegetative propagules in mulch or peat from wetland donor sites; or 3) nursery-grown seedlings or vegetatively propagated plants. Collection of bare-root transplants from donor sites has led to overcollection in and subsequent damage to some areas. Increased restrictions on field collection, including seed, have prompted efforts to develop more efficient nursery production practices for native plant production.



DNA fingerprinting techniques are used to determine genetic diversity of plant populations.

Wetland plants are multiplied using micropropagation techniques.

The shift from field collection to nursery propagated plants raises additional concerns about the maintenance of genetic diversity and potential negative results following introduction of plants ecotypes physiologically "mismatched" to specific site conditions. Some regulatory agencies have attempted to set unenforceable guidelines that restrict collection of either bareroot transplants or propagules for nursery production to local plants within a limited radius from a planting site. Kane believes that this policy is ecologically sound in principle. However, he relates that the relationship between geographical origin of source materials, ecotypic variation and relevance to successful landscape creation or restoration is unknown. The lack of knowledge has prevented a more scientific-based approach to decisionmaking about the use of translo-

Nancy Philman evaluates growth of wetland plant ecotypes under nursery conditions in Gainesville.

Micropropagated sea oats genotypes are evaluated at St. George Island State Park.

Successful establishment of tissue cultured wetland plants.

cated plant materials in habitat restoration/enhancement. Generating this information has been a goal of Dr. Kane's research. To accomplish this, use of plant micropropagation technology and DNA fingerprinting are coupled to nursery and field evaluation. In recent years, this approach has been extended to threatened and endangered Florida natives, including woody species and orchids. His lab has worked in cooperation with native plant nurseries such as Horticultural Systems, Inc. in Parish, Florida.

Dr. Kane believes that the commercial micropropagation of native plants used for habitat restoration provides an alternative to field collecting vegetative material, and this could facilitate selection, rapid production, and storage of many native plant ecotypes that are genetically adapted to specific habitat conditions. "When one thinks of micropropagation," Kane states, "the thought of clones immediately comes to mind. From an ecological standpoint, we do not support the planting of single clones; rather, the best alternative consists of a composite of *many* micropropagated genotypes from a local area. The survival and excellent growth performance of micropropagated Florida wetland plant ecotypes in both the nursery and the field have been extremely promising. However, our research with wetland species collected from distant populations as far away as Rhode Island and grown under Florida conditions tells us that there are definite limitations. Our genetic studies with sea oats demonstrate significant differences in population structure and genetic diversity within and between Atlantic and Gulf coast populations. The field growth performance of micropropagated sea oats genotypes indicate that these genetic differences are expressed by marked differences in growth, morphology and flowering. We still need to better understand what these differences mean from an ecological standpoint. It is gratifying to that commercial micropropagation labs and nurseries are beginning to use the protocols that we have developed."

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Seed propagation of endangered Florida native plant Ziziphus celata.

Invasive Exotics in Horticulture

Bijan Dehgan Studies Pest Plants

During his trip to Russia's Komi Republic, Bijan Dehgan visited natural areas to look for samples of unusual plants. Here he is pictured with a rare edible forest mushroom.

Dr. Bijan Dehgan, a professor in Environmental Horticulture, was awarded a USDA TSTAR grant in 2001 to study invasive exotic species in the Caribbean Basin, including Florida. One area of his research focuses on *Lantana camara*, which appears to be overwhelming the native *Lantana* species. It has already extensively hybridized with and almost eliminated *L. depressa*, a Florida species. Dr. Dehgan traveled to Jamaica in August to collect germplasm for DNA and other studies in order to understand why the weedy invasive *L. camara* is so successful. He also wants to find out which of the many cultivated varieties produced in Florida are sterile in order to recommend only those varieties be grown by nurserymen. In spite of the fact that *Lantana camara* is so weedy, its sales in Florida nurseries still amount to $7.5 million per year, a fact that distinguishes it from the other major Florida pest plants that are not sold, such as Melaleuca, Australian Pine and Brazilian Pepper, among others.

Dr. Dehgan also traveled to Russia's Komi Republic to Syktyvkar State University in September to present his work at a international conference. The Russian scientists were interested in his methodology for studying and controlling exotic pests as a model for their own work with invasive species.

Lantana camara is well known as one of ten most invasive weeds in the world. We know it has been in Florida for a very long time, thanks to William Bartram, the noted American naturalist who traveled North Florida between 1773 and 1776. He gave a full description of it occurring in the islands of Lake George and the Isle of Palms (all near Jacksonville) in his 1791 work "Travels Through North and South Carolina, Georgia, East and West Florida…"

Dr. Dehgan was also recently awarded the Environmental Horticulture Club's Professor of the Year Award.

The most common form of the extremely invasive Lantana camara.

2002 Poinsettia Field Days

On December 10th & 12th 2002, the UF/IFAS EH Department's floriculture team hosted the National Poinsettia Variety Trial. This annual event is sponsored by international poinsettia breeding and production firms and attracted over 600 industry specialists and consumers from as far away as Europe, who came to see the latest introductions of this popular holiday crop.

The industry field day focuses on issues for poinsettia growers, breeders and researchers. This day details commercial production methods for new varieties and summaries of research conducted by UF on plant growth regulators, crop scheduling and post-harvest evaluations.

Attendees of the public field day enjoy the wealth of color on display, sample the latest trends in poinsettias, and mob plants offered for sale by the EH Student Club. Information from the most detailed consumer evaluation in the country of the 100+ varieties on display help commercial growers and breeders select future varieties. Some of the new poinsettias on display included: 'Carousel Pink', 'Enduring Pink', 'Chianti', 'Christmas Wish' and 'Sonora White Glitter'.

Alumni News

'49 Carl Loop (BS) was featured in *Impact* Summer *2002* for his influence on the agricultural industry, state wide, nationally and internationally.

'83 Mark R. Wilson (MAg) was featured in *Grower Talks* December 2002 with his article *Fine-Tune Your Production Schedule for Angelonia*. Wilson is technical manager for Ball FloraPlant, West Chicago, Illinois.

'86 Tom Wichman (BS) was presented with the National Association of County Agricultural Agent's achievement award at their August 2002 annual conference in Savannah, GA.

'89 Udom Jierwiriapant (MS '89) manages a garment factory in Thailand. In addition he does extension work for the King of Thailand and is helping hill tribe people to convert from growing opium to ornamentals and vegetables in the golden triangle. He has a 13-year-old daughter and an eight-year-old son.

'90 Heidi Wernett (PhD) owns and operates a horse farm in Kunming, Yunnan Province, China and works on orchid research. **Wernett** has a seven-year-old daughter, Christina.

'93 Ze Monteiro (PhD) received the Outstanding Ornamentals Publication award for his 2001 paper, *Postproduction of Potted Miniature Rose: Flower Respiration and Single Flower Longevity.* The award was presented by the American Society of Horticultural Science at the International Horticultural Society meeting, Toronto, Canada, August 2002.

'94 Lissette Castillo (BS) teaches at Felix Varela High School in Miami, FL, where she is in the agriscience program and deals with landscape operations and biotechnology.

'96 Laurie Trenholm (MS), Assistant Professor of Environmental Horticulture, was featured in *Impact* Magazine Summer 2002 for her influence on the turf industry.

Marcus Carter (BS) is working as landscape superintendent for the Jack Nicklaus Bear's Club in Jupiter, FL. He and his wife have 2-year-old twin sons, Robby and Andy.

'97 Michael Marshall (MS) of Marshall Tree Farm, was recognized as an outstanding woody ornamental division member at the Florida Nurserymen and Growers Association meeting, Summer 2002.

'98 Betsy Spillers Gardner (MS) The owner of the Plant Shoppe in Greenery Square, Gainesville, FL was featured in *CALS Connection, May 2002* and *Impact 2002*.

Erika Gubrium (MS) is a graduate assistant in the Center for Jewish Studies at UF and has served as assistant coordinator for SHIFT The Summer Holocaust Institute for Florida Teachers. **Gubrium** is seeking a PhD in the Department of Curriculum & Instruction (C&I) within the School of Teaching and Learning at UF.

Tucker Taylor (BS) has left the organic greenhouse operation in Portland, OR and has moved to Athens, GA, where he is managing another certified organic farm, Woodland Gardens. They grow a wide variety of quality specialty fruits, vegetables and flowers for restaurants and markets in Athens, Atlanta and surrounding areas.

'00 Jennifer Norris Bray (BS) is employed by Rentokil Tropical Plant Services where she does plant maintenance at many commercial operations in the Gainesville area.

Sonja Skelly (PhD) is employed by Cornell University, Ithaca, New York, as the Director of Education for Cornell Plantations, the botanic garden, arboretum and natural areas of Cornell University.

'01 Gale Albritton (MS) was recognized as an outstanding landscape division member at the Florida Nurserymen and Growers Association Convention Summer 2002.

Nathan Eisner (MS) is working for the State of Wisconsin.

Stephen Toomoth (BS) is employed by Cherry Lake Tree Farm, where he is supervisor of production and sales for 15-30 gallon material.

'02 Jenny Lee Hayes (BS) received the Outstanding Female Leader Award, Spring 2002. **Hayes** entered Vanderbilt University Law School in Fall 2002.

Education Corner

Summer Plant Tissue Culture Workshop For Teachers Held

The Environmental Horticulture Department hosted fifteen high school and college faculty of the workshop: *Introducing Plant Tissue Culture Into the Classroom* July 29 – 31st, . Dr. Mike Kane organized and taught this three-day hand-on workshop with the assistance of Dr. Carol Stiff, President, Kitchen Culture Kits, Inc. The overall objective of the workshop was to provide instructional resources, conceptual background information and hands-on laboratory experiences to facilitate the introduction of plant tissue culture into classroom curricula. The participants attended lectures and completed numerous hands-on laboratories. The workshop culminated in a field trip to Agri-Starts in Apopka, Florida. Financial support for the workshop was kindly provided by Dean Jimmy Cheek, Academic Programs, Agri-Starts I & III, Inc. and Oglesby Plants International, Inc. The workshop will be offered again in Summer 2003.

"Hands-on" experience marked the Plant Tissue Culture Workshop

Internship Night

The Environmental Horticulture Internship Night was held on Tuesday evening November 19th. This event has proved to be very popular with students in our department as well as other agricultural related majors.

This year's guest presenters were **Ray Gillis** (MS 95) of Agristarts II Inc., **Chris Neff** (BS 96)of Timuquana Country Club, Brandon Bryson from **Valley Crest**, and Dr. George Banez of **Marie Selby Botanical Garden**.

The purpose of the program is to raise student awareness of internship opportu-

nities within the state of Florida as well as the United States that touched on a diversity of horticulture programs. Students were exposed to information on greenhouse production and tissue culture, golf course maintenance, landscape design, installation, and maintenance, and public gardens operations.

Student News

Homestead's Tropical Research and Education Center Produces its First Graduate

Jorge Abreu became the TREC Academic Program's first graduate this past fall. Born and raised in Miami, both his parents are Cuban and his father has always kept in touch with the agricultural end of things. Jorge says: "I guess this is where I get my inspiration." His father purchased land to develop a nursery in 1988, planted field palms to bring in revenue and also had horses. Jorge showed horses, became a pre-vet student in UF-IFAS, and received a BS in Animal Science.

Thinking he might not move back to Miami, Jorge decided not to work for the family business, and for two and a half years, he worked for a veterinary pharmaceutical company based in Gainesville. He was doing sales and the Miami sales territory became available. Jorge moved and worked there successfully for more than a year, but was not happy. So he had a change of heart and decided to join the family business. Remembering that UF had a South Florida research facility and new academic program, he inquired about it and became the first student to enroll at Homestead.

"The two best ways to learn about an industry is working in it and educating yourself through schooling. I have enjoyed my two years at Homestead," says Jorge. Jorge's family business is the 11-acre West Kendall Nursery, specializing in container-grown plants. Jorge says that he crashes heads with his dad because "...it is the old school versus the new school...which is good because we are looking at things in different perspectives. We have lots of things we want to do...but we are taking our time...and not getting in over our heads." Jorge is now looking into pursuing his MS in Agribusiness.

Student Intern Goes Hawaiian

Ian Cole, a public Gardens specialization major spent this past fall as an intern at the National Tropical Botanical Garden in Kaua'i, Hawai'i. He had the opportunity to experience international diversity, as he was one of twelve interns from all reaches of the USA and from as far as Japan, Dominica and Samoa.

The internship program included an extensive lecture series and daily practical work experience. The lectures included topics such as ethnobotany, tropical plant systematics, entomology, indigenous cultures, the role of botanical gardens, and many others. Students also experienced different aspects of botanical garden management from basic horticultural practices to tissue culture and propagation of rare plants. Ian also enjoyed the exposure to a culture unlike any other and thought the Hawaiian people were amazing.

When asked what he most benefited from Ian stated, "I learned so much about the importance of native plant and habitat conservation. In Hawaii exotic plants and animals have drastically and permanently changed the ecosystem of the area, causing the loss of many native plants, animals and habitats. Florida is very similar to Hawaii. There are the same risks and threats affecting this state that I know and love. This internship opened my eyes to the responsibility we have as residents and horticulturists in the state of Florida."

Environmental Horticulture Student Club

The ENH undergraduate club hit the ground running upon their return in August. They have been busy raising funds for their spring trip to Costa Rica. Some of their fundraising activities include arranging flowers for the University's 150th Anniversary celebration, which is kicking off on January 10th. They also had their annual poinsettia sales during the departmental field day and sold Gator Pride Hibiscus plants that bloom an orange and blue flower during Homecoming.

Some of their service activities include working with the Gainesville Lions Club and Alachua County Society for the Blind on 'The Dreamers Garden". The garden is designed for the enjoyment of people with visual challenges. They are also working with the Alachua County Youth Fair in the Horticulture judging program this spring.

Turfgrass Club

In November the Turf Grass Club and Environmental Horticulture Club visited the Villages Golf and Retirement Resort, just south of Ocala. With the help of fellow UF Alumni, Keith Kirchoffer of *One Source Management*, the clubs were pampered on a tour of the massive retirement resort, including a lunch stop in one of the resort's clubhouses. The resort can be described as an adult version of Disney World. With over ten courses to play and out door activities happening around every corner, the place would make any one want to head into an early retirement. *One Source Management*, which oversees the courses and employs many UF alumnus, did an excellent job of pitching their operation to future UF graduates. The golf courses, which includes two bunkers next to one another in the shapes of a "U" and "F", are all in above par conditions. One Source Management limits their pesticides usage and continues to work towards their goal to be Audubon Certified. With the goal of making this an annual trip, both clubs had a great time visiting a facility that would make anyone envious to be part of.

If you have alumni or student news to share with our readers, contact Lisa Hall, our Academic Coordinator. Email her at: LHall@ifas.ufl.edu or phone (352) 392-1831 x 333.

Student Honors

Environmental Horticulture Students Win SNA Competition

Two undergraduate Environmental Horticulture students brought back top honors from the Bryson L. James student competition, held in conjunction with the Southern Nursery Association (SNA) research conference in Atlanta, GA. Josiah Raymer, (UF/WFREC Milton) placed first and was awarded $500; Henry Bryant (Gainesville) placed second and was awarded $300.

Students were judged on the purpose and nature of their work, how well they discussed and conveyed their results, and significance to the industry.

Josiah researched the genetic diversity of red and green leaf *Imperata cylindrica* (Cogongrass), studying the potential of red leaf forms of this popular ornamental plant to cross with invasive species. His research, using RAPD/PCR of extracted DNA, found that 'Red Baron', or 'Bloodgrass' Cogongrass is capable of crossing with invasive types, and that these red forms are not all genetically identical, which increases the likelihood of outcrossing to invasive forms.

Henry Bryant, under the direction of Dr. Tom Yeager, researched growth of Spathiphyllum using three different irrigation methods. He found that overhead sprinkler, capillary wicks, and capillary mat irrigation produced similar growth indexes. However, the wick irrigation system used 86% less water than the overhead sprinkler and 81% less than the mat. Also wick irrigation did not result in water runoff. The significance of this research to the industry is producing viable healthy crops using significantly less water with less potential for pollution to the environment.

Both presentations were well received by the audience of over 150 researchers and industry leaders.

Henry Bryant and Josiah Raymer placed second and first in the SNA Student Competition, respectively.

Erin Eckhardt received the E.T. York, Jr. Award of Merit, Spring 2002. **Erin** is an ENH major, sister of Sigma Phi Alpha, member of the Golden Key National Honor Society , the Ag. Education and Communication Society and the ENH Club, and is also a College of Agriculture and Life Sciences (CALS) ambassador.

Fatma Al-Saqri graduate student with **Dr. Jim Barrett** received an award for the best student poster presentation at the International Society for Horticultural Science in Toronto, Canada, August 11 – 17, 2002.

$CHOLARSHIP$

This year our students again brought in a phenomenal amount of scholarship dollars, the total increasing 21% from last year's figure of $83,000.

Arthur Andres Sch.	$2,000	Gulf Coast Superintendent's Assn	500
Aventis Sch.	1,000	Halifax Country Garden Club	1,000
Bartlett Tree Foundation	975	IFAS Scholarship	100
Batson Scholarship	8,500	IFAS Travel Grant	200
Bloom 'N Grow Garden Society	5,000	James H Davis Memorial Sch.	13,000
Col Frank Ward	1,500	Joiner Graduate Student Sch.	300
Edgar Martin Sch.	1,000	Lawn & Garden Marketing	
ENH Graduate Student Sch.	2,000	& Dist Assn	2,450
Farm Credit Bureau	1,000	Lisa Burton Memorial Sch.	600
Floral Rural Rehabilitation Sch.	3,000	Lykes Sch.	1,000
Florida Fdn. of Seed Producers	600	Max McQuade Memorial Sch.	1,000
FNGA		Orlando Garden Club	4,000
Action Chapter	1,000	Phelps Sch.	16,100
Big Bend Chapter	1,500	Plant Tissue Culture Travel Grant	775
Royal Palm Chapter	500	Sweetwater Oaks Sch.	1,000
Brevard County	3,000	Gordon Conf. Travel Grant	500
FRRC OFF Campus	1,000	UF Alumni Fellowship	15,000
Ft. Lauderdale Garden Club	1,000	Vic and Margaret Ball Internship	4,000
FTGA General Sch.	1,000	William Ward Sch.	1,200
Grad. Student Council Travel Grant	175	Windermere Garden Club	2,000
Grad. Student EHC Travel Grant	250	Total Awarded	**$100,725**

FACULTY FOCUS

Wagner A. Vendrame, Assistant Professor (TREC Homestead)

Wagner A. Vendrame joined the faculty at the Tropical Research and Education Center (TREC) in Homestead in July, 2001 as an Assistant Professor in the Environmental Horticulture Department. He received both his B.S. and his M.S. from the University of São Paulo, and earned his Ph.D. in Horticulture from the University of Georgia.

The bad economic situation in his native Brazil during the 1990's motivated him to further his education. While working toward his M.S. at the University of São Paulo, he did research at the University of Georgia's (UGA) School of Forest Resources under the tutelage of the late Dr. Harry Sommer. Dr. Hazel Wetzstein in the Horticulture Department at UGA invited him to return for his Ph.D. Wagner then joined Dr. Scott Merke at UGA's School of Forest Resources, and spent two years on clonal propagation of hybrid sweetgum and hybrid yellow poplar trees.

Wagner has already enhanced the academic program at TREC by teaching popular classes such as Orchidology and Nursery Management. He is currently developing a Palm Production and Culture course for Spring 2003, which promises to be an intriguing course for students, especially in South Florida, where palms are such popular landscape ornamentals. Also, Wagner has encouraged some of his students to do an independent study class on Micropropagation of Horticultural Crops. Wagner already has a waiting list of students who wish to take this class.

Dr. Vendrame has established good relations with the ornamental industry in Miami-Dade County and the FNGA chapter in Homestead, and has met with local growers to find how his research can help their most pressing needs. Wagner says: "I want to learn with the growers, and I am always open to ideas and suggestions."

Dr. Bob's Gardening Tips

Dr. Robert J. Black

Bed Preparation and Maintenance of Annuals

The time spent preparing the planting bed is important if you are to be successful with annual flowers. Flower beds should be spaded or tilled at least six inches deep several weeks before planting. Florida's sandy soils have very low capacities for holding nutrients and water. Incorporation of two to three inches of organic matter into planting beds will increase the nutrient and water retention of these soils. Organic materials such as leaf mold or peat should be thoroughly mixed into the soil.

Garden soils, especially in recently developed areas, are frequently infertile. Flower beds should be fertilized prior to planting or at planting time and repeated on a monthly basis. Apply 6-6-6 or a similar complete fertilizer at the rate of two pounds per 100 square feet of bed area. Controlled release fertilizers are ideal for Florida's sandy soils. Plants usually grow much better with a continuous nutrient supply and labor is reduced since controlled release fertilizer application frequency is less than for rapid release fertilizers. Controlled release fertilizers can be incorporated uniformly throughout the soil before planting and applied on the soil surface of established plantings.

Annuals purchased in compartmentalized plastic flats usually have pot-bound root systems. If planted intact, the root system will be slow to establish in the surrounding soil and plants will suffer moisture stress. A preferred method is to loosen and untangle the root system without breaking the soil ball. Plants recover rapidly and establish quickly. Tall and spindly plants should be pruned to half their original size to produce more attractive plants with more flowers.

Weeds should be controlled either by hand weeding or mulching. Black plastic mulches should never be used except when a layer of organic mulch (woodchips, pine bark, etc.) is added on top of the black plastic. Temperatures of 117-119°F have been recorded 1 to 3 inches above uncovered black plastic mulches. The addition of organic matter over the plastic reduces heat absorption and masks the artificial appearance of black plastic.

Loosen and untangle pot-bound root systems

Fertilize planting beds prior to planting.

Mulching materials should not come in contact with plant stems. The high moisture environment created by mulch increases the chances of stem rot which can result in plant death. Some annuals such as petunias develop yellow leaves (chlorosis) when mulched with cypress or pine bark mulches. This condition is not due to a nitrogen deficiency and can not be corrected by the addition of fertilizer.

Annual flowers require more maintenance than most other landscape plants. However, their brilliant colors add an atmosphere of warmth and life to a landscape which more than justifies the additional maintenance.

Remember, you can access the full collection of Dr. Bob's gardening tips at the UF Environmental Horticulture website:

http://hort.ifas.ufl.edu

Click on
"Home Gardening"

Dr. Robert J. Black "Dr. Bob" Retires From EH

After 28 years of untiring and dedicated service to the University of Florida, Dr. Robert Black retired November 30th, 2002.

Writer of many award-winning publications, Dr. Black has also been editor and author of several books useful to professionals and home gardeners alike, such as the "Florida Lawn Handbook", "Your Florida Guide to Shrubs", and "Your Florida Guide to Bedding Plants." His upcoming book on salt tolerant plants, co-authored with Dr. Ed Gilman, "Plants for the Gulf and South Atlantic Coast: A Guide to Selection, Planting and Maintenance" promises to be an invaluable publication for the residents of Florida's coastal areas.

Beside traditional publications, Dr. Black's informative series of articles in the Home Gardening area on the department's website entitled "Dr. Bob's Gardening Tips" (http://hort.ifas.ufl.edu/gt) has had an enthusiastic response from many and varied readers around the world (See page 8, where we have reprinted a couple of Dr. Bob's gardening tips).

Dr. Black has also been recognized by national professional associations, and has served as statewide coordinator for the Florida Federation of Garden Clubs Short Course, from which has received many accolades. His outstanding contributions to the University, IFAS, Environmental Horticulture Department, State of Florida, the 4-H program, the Cooperative Extension Service, and students made it a simple matter to grant Dr. Black Professor Emeritus status.
His retirement party, held at Fifield Hall this past November, which was a sumptuous potlock luncheon. It featured presentations and well-planned gifts, and was well-attended by his friends and colleagues. We all look forwarding to continuing our professional association with Dr. Black, and hope that he keeps turning out the famous "Dr. Bob's Gardening Tips!"

Growing a Happy, Healthy, Environmentally Friendly Lawn

Laurie E. Trenholm
Urban Turfgrass Specialist

Lawns will be greening up all over north and central Florida in a few months. In south Florida, where lawns may stay green year round, spring will signal a time of new and active growth. For a happy, healthy, and environmentally friendly lawn, follow these tips:

Lawns Wake Up Hungry: All lawns will benefit from regular fertilizer applications throughout the growing season. Applying the proper amount of fertilizer for your grass species will help to promote a vigorous, healthy lawn that can out-compete weeds and serve as a filter to protect Florida's ground and surface waters. Spring fertilization is especially critical as the grass begins to grow again. For most lawn grass species used in Florida, application of ½ pound of water-soluble nitrogen per 1,000 square feet of lawn will get your lawn off to a good start. In south Florida, you can apply fertilizer approximately every 60 days throughout the year, but in north and central Florida, wait until danger of frost has passed before you apply fertilizer in the spring. Look for a fertilizer with a low phosphorus level (2nd number on the bag) and a high potassium level (3rd number on the bag) such as a 15-2-15 or something similar. Soil testing is now recommended to determine phosphorus levels. Florida soils are often high in phosphorus and addition of more than 2% is not necessary in many home lawns. Check with your local County Extension Office for information on how to submit samples for phosphorus testing.

Let the Mowing Begin! Mowing may seem like the bane of your existence through the summer months, but it is actually one of the most important management practices. Follow these suggestions for a healthy, happy lawn:

- Never remove more than 1/3 of the leaf blade at any one time. Removal of more than this can stress your lawn and leaves it susceptible to other problems.
- Mow at the highest height for your grass species. For St. Augustinegrass and bahiagrass, this is 3.5 to 4". If you have St. Augustinegrass cultivars Delmar or Seville, mow at 2 to 2.5". Mow centipedegrass at 1 to 2".
- Leave grass clippings on the ground – they do not contribute to thatch and actually return a small amount of fertility back to the lawn.
- Keep your mower blades sharp – dull blades tear the leaf blades, making them look bad and leaving the lawn susceptible to insect or disease invasion.
- Don't mow your lawn when it's wet – this is dangerous for you, tough on the mower, and bad for the grass.
- If you miss a weekly mowing, raise the mower height so you don't remove too much tissue. Bring the height back down to the recommended level slowly.

Seashore paspalum growing in North Florida

A highly maintained seashore paspalum lawn growing under optimal conditions in Central Florida

A happy lawn on Sanibel Island

Irrigation or Irritation? More lawns are killed due to improper irrigation practices than any other single cultural practice. Train your grass to be more drought tolerant through the following methods:

- Irrigate less frequently but for longer periods each time. This will help train your roots to grow deeper in the soil, which will make your lawn more drought tolerant. Grasses irrigated in this manner will survive once a week watering restrictions.
- Turn your automatic sprinkler system off. Irrigate your lawn on an as-needed basis. It is ready for water when the leaf blades start to fold in half lengthwise or when footprints remain visible in the lawn long after being made. Irrigate when at least 30% of the lawn shows these signs UNLESS rain is forecast in the next 24 hours.
- Irrigate to apply ½ - ¾" of water when you do irrigate. To determine how long you need to run your irrigation to achieve this, place straight-sided cans around the perimeter of the irrigation and see how long it takes to reach this amount. If you are in a very sandy soil, you want to apply the higher amount of water. Heavier clay soils can handle the ½" rate.
- Irrigate every two to three weeks during the winter months, even if your grass is dormant. The roots are still viable and this will help the grass green up more quickly in the spring. Irrigate around sunrise to fully allow leaf blades to dry out during the day.

This best defense against weeds or other lawn problems is to grow a happy, healthy, environmentally friendly lawn by following the fertilization, mowing, and irrigation tips as described above. Happy growing!

Upcoming Events

7th Annual Emerald Coast Flower & Garden Festival

April 7th, 2003
email: ufmilton@ufl.edu

FACTS- The Florida Agric. Conference & Trade Show

The Lakeland Center, Lakeland, FL
April 29th - 30th, 2003
phone: 407-678-5337
URL:http://www.factsshow.org

Aquat. Weed Control Short Course 2003

Ft. Lauderdale Marriott North
May 19th - 22nd
URL:http://conference.ifas.ufl.edu/aw

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