

UF | **IFAS Extension**
UNIVERSITY of FLORIDA



Growing Together

**34th Florida Master Gardener
Continued Training Conference**

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October 18–21, 2015

Kissimmee, Florida



Table of Contents

5	Welcome Letter
6	Planning Committee
7	Sponsor Recognition
8	Pre-Conference Field Trips
10	Silent Auction
11	4-H Plant ID and Judging Contest
13	Program Agenda
17	Presentation Summaries
51	Presenter Biographies
58	Presenter Index
59	Map of Florida Counties
60	Notes



Dear Master Gardeners,

On behalf of the 34th Florida Master Gardener Continued Training Conference planning committee, I would like to wish you a warm welcome to this year's conference. We have worked hard to put together a great line-up of classes, speakers, and events that will make this the best MG conference you have attended so far.

The pre-conference tours kick off on Sunday with trips to Disney World Horticulture and Gaylord Palms Resort, or to Leu Gardens and the Orange County Extension Office. On the Disney tour, we will be hosted by our friend Debbie Mola, and at Leu Gardens, the head curator Robert Bowden will lead the tour.

The classes that you will be attending are advanced Master Gardener topics in the areas of wildlife and invasives, soils and diagnostics, horticulture and gardens, Florida-Friendly Landscaping™, and more. There will be great new things to learn and training to brush up on, too.

We will begin the conference training with a presentation and film from the Florida Wildlife Corridor. Their film will make you fall in love with the Florida wilderness. The conference will be capped by nature photographer John Moran. His talk and photos will remind you that the beauty of Florida is worth protecting, and that the time you take as Master Gardeners to educate Floridians on Florida-friendly landscaping practices really makes a difference.

The UF/IFAS Extension Bookstore will be hosting special author book signings this year. Jim Stephens will sign his famous "Vegetable Gardening in Florida" publication for you, and Ginny Stibolt will sign her organic gardening or sustainable landscaping books. Stop by the Bookstore to meet these famous authors one-on-one.

This year, the always-fun Silent Auction will return! Be sure to stop by the auction and bid on the exciting items your fellow Master Gardeners have donated from throughout the state. Auction proceeds directly support the Awards of Excellence and Service Awards.

I know you will enjoy the top-rated facilities here at the Embassy Suites Orlando-Lake Buena Vista South. The hotel, conference center, and staff are the top in the world, and they have the awards to prove it.

If you Facebook or tweet, stop by the MG "selfie" booth to put on a funny gardening hat, take pictures with your friends, and share on social media. Remember to hashtag: #FLMGconf and #FLMasterGardener.

Thank you for all you do as Master Gardeners and thank you for investing in your education by attending the 34th Florida Master Gardener Continued Training Conference. Together we will make this the best conference yet.

Sincerely,

Wendy Wilber

Florida Statewide Master Gardener Program Coordinator

Planning Committee

David Austin

Highlands County

Nichelle Demorest

Columbia County

Emily Eubanks

Center for Landscape Conservation and Ecology

Kim Gabel

Monroe County

Jasmine Garcia

UF/IFAS Office of Conferences & Institutes

Lisa Hickey

Manatee County

Claire Lewis

Florida-Friendly Landscaping™ Program

Brooke Moffis

Lake County

Katherine Oliver

Manatee County

Eva Pabon

Osceola County

Sydney Park Brown

UF/IFAS Horticulturist

Nicole Pinson

Hillsborough County

Norma Samuel

Marion County

Wendy Wilber

Florida Master Gardener Program

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Pre-Conference Field Trips

FIELD TRIP A | AMAZING

Sunday, October 18, 2015

Field Trip A Itinerary	
12:00pm	Board bus at Embassy Suites
12:30pm	Depart hotel for Leu Gardens
1:15pm	Arrive and tour Leu Gardens
3:00pm	Board bus
3:30pm	Arrive and tour Orange County Extension Office
4:45pm	Board bus
5:30pm	Return to hotel

What to Wear & Bring

Comfortable, casual attire suitable for being outdoors is recommended. Be sure to wear a Master Gardener logo shirt and/or your MG name badge for identification. Closed shoes are required on all tours. Sunscreen, bug repellent, sunglasses, hat, jacket (if appropriate), and cameras are also suggested.

Food Provided

Bottled water and light snacks such as granola bars will be provided to all tour participants for these afternoon trips.



Fountain at Leu Gardens

1st Stop: Leu Gardens

Harry P. Leu Gardens is a 50 acre botanical garden located in the heart of Orlando. You will be amazed by their extensive rose garden, tropical steam garden, and a fabulous idea garden. Our guide for the garden tour is none other than the executive director, Robert Bowden. Robert is a Florida gardening rock star who is well known for his books and lectures. If this is your first time to Leu Gardens you are in for a treat, and if you have been before you will certainly enjoy the cook's tour of one of Florida's botanical gems.



Gardens at the Orange County Extension Office

2nd Stop: Orange County Extension Office Gardens

In 2011, the Orange County Extension Office moved to its new location at 6021 S. Conway Road. Extensive demonstration gardens had always been on the bucket list and now the Horticulture Program's and Master Gardeners' wish has come true. The Exploration Garden at the Orange County Extension Office has seven themed gardens: an event garden, a butterfly garden, an eco-garden, a home and small farm vegetable demonstration garden, a bog garden, a fruit tree demonstration garden, and a succulent garden. Extension Agent Ed Thralls and the renowned Orange County Master Gardeners will be our guides through these education gardens.

Thank You to Our Tour Site Hosts!

A very special thank you to **Robert Bowden & Linda Schmidt** at Leu Gardens and **Ed Thralls** at the Orange County Extension Office for helping organize and host the tours at these amazing sites.

Pre-Conference Field Trips

FIELD TRIP B | BEAUTIFUL

Sunday, October 18, 2015

Field Trip B Itinerary	
12:00pm	Board bus at Embassy Suites
12:30pm	Depart hotel for Disney World
1:00pm	Arrive and tour Disney World Horticulture
2:30pm	Board bus
3:00pm	Arrive and tour Gaylord Palms Interiorscape
4:30pm	Board bus
5:00pm	Return to hotel

What to Wear & Bring

Comfortable, casual attire suitable for being outdoors is recommended. Be sure to wear a Master Gardener logo shirt and/or your MG name badge for identification. Closed shoes are required on all tours. Sunscreen, bug repellent, sunglasses, hat, jacket (if appropriate), and cameras are also suggested.

Food Provided

Bottled water and light snacks such as granola bars will be provided to all tour participants for these afternoon trips.



Favorite Disney Topiaries

1st Stop: Disney World Horticulture

Disney World and especially EPCOT are known for their topiaries and hanging baskets. If you have ever attended the EPCOT Flower and Garden Festival you probably have pictures of these amazing topiary creations. Join the famous Debbie Mola for a behind-the-scenes tour of Disney's nursery where the topiaries and baskets are created. You will get growing tips on how to create topiaries and make amazing baskets, so you can bring a touch of the Disney magic to your garden.



Inside the Gaylord Palms Interiorscape

2nd Stop: Gaylord Palms Resort

One of the largest hotels in the Orlando area is the Gaylord Palms Resort and Convention Center. This luxury hotel is famous for its polished glass 4 ½ acre (!) atrium and the plants that reside there. We will tour the extensive interiorscape with skilled guides and learn their methods of plant selection, maintenance, and IPM for interior plants. The tropical palm, cycads, and flowers are worth the trip alone. This is your chance to tour an interior tropical paradise.

Thank You to Our Tour Site Hosts!

A very special thank you to **Debbie Mola** at Disney and **Bethanny Lahey** at the Gaylord Palms Resort for helping organize and host the tours at these beautiful sites.

Silent Auction



The silent auction is back by popular demand at this year’s conference! From new gardening tools and accessories to rare plants, rain barrels, and baskets of local goodies, there will be plenty to pique every Master Gardener’s interest.

AUCTION DONATIONS

Auction items are being donated by Master Gardener county programs from around the state. Each donating county will have a designated display area at the conference. See itinerary below for item donation check-in times. *A very special thank you to all the counties contributing auction items and helping make this event a success!*

COUNTY COMPETITION & AUCTION PROCEEDS

The county whose auction item(s) bring in the most money will receive a **prize packet** including a Master Gardener tablecloth, a \$50 gift certificate to the UF/IFAS Extension Bookstore, and caladiums. Be on the lookout for your county’s items so you can bid accordingly! Auction proceeds will go toward the purchase of awards recognizing Master Gardener volunteers for their length of service and innovative programming.

AUCTION ITINERARY

Sunday	Sunday, October 18, 2015
4:30pm-6:30pm	Early Item Donation Check-In [Cypress 2]
Monday	Monday, October 19, 2015
7:30am-2:00pm	Item Donation Check-In [Cypress 2]
2:00pm-7:30pm	Auction Open for Bidding [Cypress 2]
Tuesday	Tuesday, October 20, 2015
7:00am-5:00pm	Auction Open for Bidding [Cypress 2]
4:45pm-5:00pm	Last Call for Bids - during meeting break [Cypress 2]
5:45pm	Auction Announcements - following General Session 4 [Palms CD]
6:00-7:00pm	Auction Checkout [Cypress 2]

NOTE: Only cash or check payments will be accepted during auction checkout, so please plan accordingly! There is an ATM available near the hotel lobby.

4-H Plant ID and Judging Contest



Each year during the Florida Master Gardener Continued Training Conference, Master Gardeners compete in the 4-H plant identification and judging competition. Teams and individuals can both compete to identify samples of ornamental plants, vegetables, and fruits, as well as judge specific plant specimens on their appearance and vigor.

The winning county receives a plaque, and their name is added to the Dean's Award plaque that is posted in McCarty Hall at the University of Florida. Prizes are also awarded to the highest-scoring individual contestant.

Participants benefit from the added plant knowledge and, if interested, gain experience in coaching a 4-H team from their county to compete at the plant ID and judging contest that takes place annually at the 4-H Congress.

This year's contest will be held **Tuesday, October 20th from 1:15pm-3:15pm** in Cypress Rooms 3-5 of the conference center. If you are interested in participating, be sure to stop by and sign-up in advance!

A very special thank you to Sydney Park Brown, Jim Stephens, and Jeff Williamson for bringing materials from across the state to make the 4-H Plant ID and Judging Contest possible. The time and effort they have put forth to organize and host this year's contest is much appreciated!

Program Agenda

Sunday		Sunday, October 18, 2015			
12:30pm-5:30pm	Optional Pre-Conference Field Trips				
4:30pm-6:30pm	Pre-Conference Registration Open [<i>Palms Ballroom Foyer</i>] Early Silent Auction Donation Check-In [<i>Cypress 2</i>]				
Monday		Monday, October 19, 2015			
6:30am-9:00am	Breakfast at Embassy Suites - Included in Hotel Reservation [<i>Dining Room</i>]				
7:30am-6:00pm	Registration Open [<i>Palms Ballroom Foyer</i>]				
7:30am-2:00pm	Silent Auction Donation Check-In [<i>Cypress 2</i>]				
9:00am-9:30am	Welcome and Announcements [<i>Palms CD</i>] Wendy Wilber , Florida Statewide Master Gardener Coordinator, UF/IFAS				
9:30am-11:30am	OPENING KEYNOTE PRESENTATION [<i>Palms CD</i>] Florida Wildlife Corridor: Connecting to Keep Florida Wild Mallory Lykes Dimmitt , Florida Wildlife Corridor Executive Director Moderator: Wendy Wilber				
11:30am-5:30pm	UF/IFAS Extension Bookstore Open [<i>Cypress 1</i>]				
11:30am-1:00pm	Author Ginny Stibolt Book Signing [<i>Cypress 1</i>]				
11:30am-1:00pm	Lunch on Own				
Concurrent Sessions 1					
1:00pm-2:00pm	A-1 Invasives & Wildlife	B-1 Hort & Garden	C-1 Soils & Diagnostics	D-1 FFL	
Location	Palms CD	Palms E	Palms G	Palms F	
Moderator	Ed Thralls	Brooke Moffis	Kim Gabel	Christine Kelly-Begazo	
	Steve Johnson What's in Your Yard?: Managing Invasive Wildlife in Your Florida-Friendly Landscape	Shirley Barber Beautiful Gardens Begin with the Seed	Abid Al Agely Biofertilizer: Mycorrhizae	Joe Sowards Tips and Strategies for a Successful Demonstration Garden	
2:00pm-2:15pm	Move to Next Session				
2:00pm-7:30pm	Silent Auction Open [<i>Cypress 2</i>]				
Concurrent Sessions 2					
2:15pm-3:15pm	A-2 Invasives & Wildlife	B-2 Hort & Garden	C-2 Soils & Diagnostics	D-2 FFL	
Location	Palms CD	Palms F	Palms E	Palms G	
Moderator	Katherine Oliver	Claire Lewis	Yvette Goodiel	Lynn Barber	
	Mary Jane Cary Teaming with Nature: Landscaping with the Natives	Christine Kelly-Begazo Not Your Average Palm	Rao Mylavarapu Soil Testing and Figuring Out What Your Soil Needs	Laurie Trenholm Frustrated by Fertilizers: Getting to Know Those Nutrients & What's in the Bag	
3:15pm-3:45pm	Refreshment Break and Move to Next Session [<i>Palms Ballroom Foyer</i>]				
Concurrent Sessions 3					
3:45pm-4:45pm	A-3 Invasives & Wildlife	B-3 Hort & Garden	C-3 Soils & Diagnostics	D-3 FFL	
Location	Palms F	Palms E	Palms CD	Palms G	
Moderator	Mary Derrick	Kate O'Neill	Norma Samuel	Gabrielle Milch	
	Bill Giuliano, Holly Ober, and Steve Johnson Coping with Wildlife That Can Be Dangerous or Damaging	Dale Galiano Garden Art	Carrie Harmon Plant Disease Diagnosis: How to Make a Sick Plant Talk	Gail Hansen Bridging the Divide: Strategies for Homeowners and HOAs Working Together	
4:45pm-5:00pm	Move to Next Session				
5:00pm-6:00pm	GENERAL SESSION 2 [<i>Palms CD</i>] Bromeliads, Backyards, and Mosquitoes Roxanne Connelly , UF/IFAS Professor and Medical Entomology Specialist Moderator: Wendy Wilber				
6:00pm-7:30pm	Welcome Reception and County Photos [<i>Palms AB and Prefunction Area</i>]				

Tuesday					Tuesday, October 20, 2015				
6:30am-8:00am					Breakfast at Embassy Suites - Included in Hotel Reservation <i>[Dining Room]</i>				
7:00am-6:00pm					Registration Open <i>[Palms Ballroom Foyer]</i>				
7:00am-5:00pm					UF/IFAS Extension Bookstore Open <i>[Cypress 1]</i>				
7:00am-5:00pm					Silent Auction Open <i>[Cypress 2]</i>				
8:00am-9:30am					GENERAL SESSION 3 <i>[Palms CD]</i> Underutilized and Fantastic Woody Plants for Florida Landscapes Gary Knox, UF/IFAS Woody Plants Specialist and Jason Smith, UF/IFAS Forest Pathologist Moderator: Christine Kelly-Begazo				
9:30am-10:00am					Refreshment Break and Move to Next Session <i>[Palms Ballroom Foyer]</i>				
					Concurrent Sessions 4				
10:00am-11:00am					A-4	B-4	C-4	D-4	
					Edibles	Hort & Garden	Soils & Diagnostics	FFL	
Location					Palms CD	Palms G	Palms E	Palms F	
Moderator					Carolyn Saft	Claire Lewis	Tracy Tesdall	Jack LeCroy	
					Christine Kelly-Begazo Creating a Sustainable Food System in Your Backyard	Mark Hoyer Florida LAKEWATCH: Citizen Scientists Protecting Florida's Aquatic Systems	Sally Scalera Gardening is Really All About the Soil: Always Was & Always Will Be!	Deah Lieurance Invasive Plants - What You Need to Know!	
11:00am-11:15am					Move to Next Session				
					Concurrent Sessions 5				
11:15am-12:15pm					A-5	B-5	C-5	D-5	
					Edibles	Hort & Garden	Youth	FFL	
Location					Palms E	Palms CD	Palms G	Palms F	
Moderator					Matthew Orwat	Terry DelValle	Yvette Goodiel	Katherine Oliver	
					Gabrielle Milch Vegetable Gardening for the Public	Catharine Mannion Attracting Pollinators & Beneficial Insects to Your Yard and Keeping Them There	Lesley Fleming 10 Ways to Use the Junior Master Gardener Program - Thinking Outside the Box	Claire Lewis Landscape Advisor Training: Navigating the FFL Recognition Checklist	
12:15pm-1:15pm					Provided Boxed Lunch <i>[Palms AB]</i>				
12:15pm-1:15pm					Author Jim Stephens Book Signing <i>[Cypress 1]</i>				
1:15pm-3:15pm					4-H Plant ID and Judging Contest <i>[Cypress 3-5]</i>				
2:15pm-3:15pm					Industry Updates <i>[Palms CD]</i> Moderators: Wendy Wilber and Ed Thralls				
3:15pm-3:45pm					Refreshment Break and Move to Next Session <i>[Palms Ballroom Foyer]</i>				
					Concurrent Sessions 6				
3:45pm-4:45pm					A-6	B-6	C-6	D-6	
					Hort & Garden	Hort & Garden	Awards	FFL	
Location					Palms CD	Palms E	Palms F	Palms G	
Moderator					Susan Kooiman	Sally Scalera	Emily Eubanks	Kim Gabel	
					Lynn Barber, Sydney Park Brown, and Norma Samuel Favorite Funky Flowers and Great Plants You Should Grow	Suzanne Greene Propagation by Air Layer	2013 Florida Master Gardener Awards of Excellence Winners Award-Winning MG Project Updates	Tom Becker Mangrove Conservation Jeopardy: A Homeowner's Guide to Living with Mangroves	
4:45pm-5:00pm					Move to Next Session Last Call for Silent Auction Bids <i>[Cypress 2]</i>				
5:00pm-5:45pm					GENERAL SESSION 4 <i>[Palms CD]</i> Mothball Tales: The Good, the Bad, and the Smelly Rebecca Baldwin, UF/IFAS Entomologist and Paul Mitola, FDACS Moderator: Emily Eubanks				
5:45pm-6:00pm					Silent Auction Announcements and Door Prizes <i>[Palms CD]</i>				
6:00pm-7:00pm					Silent Auction Checkout <i>[Cypress 2]</i>				
					Dinner on Own				

Wednesday		Wednesday, October 21, 2015	
6:30am-8:30am	Breakfast at Embassy Suites - Included in Hotel Reservation <i>[Dining Room]</i>		
7:30am-1:00pm	Registration Open <i>[Palms Ballroom Foyer]</i>		
7:30am-11:30am	UF/IFAS Extension Bookstore Open <i>[Cypress 1]</i>		
GENERAL SESSION 5 <i>[Palms ABCD]</i>			
8:30am-9:30am	Poinsettias - Answering Questions about This Popular Holiday Plant <i>Jim Barrett</i> , UF/IFAS Horticulturist and Professor Emeritus Moderator: Nichelle Demorest		
9:30am-10:45am	Awards Program <i>[Palms ABCD]</i>		
10:45am-11:15am	Beverage Break <i>[Palms Ballroom Foyer]</i>		
CLOSING KEYNOTE PRESENTATION & PLATED LUNCH <i>[Palms ABCD]</i>			
11:15am-1:00pm	Our Water, Our Future <i>John Moran</i> , Florida Nature Photographer and <i>Springs Eternal Project</i> Co-Director Moderator: Wendy Wilber		
1:00pm	Conference Concludes		

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Growing Together

Presentation Summaries

Listed chronologically

Opening Keynote Presentation | Monday, October 19, 2015 | 9:30am-11:30am

Florida Wildlife Corridor: Connecting to Keep Florida Wild

Mallory Lykes Dimmitt, Florida Wildlife Corridor Executive Director

The Florida Wildlife Corridor is a conservation communications organization dedicated to connecting, protecting, and restoring corridors of conserved lands and waters essential for the survival of Florida's diverse wildlife. By combining conservation science with compelling imagery and rich storytelling, the organization seeks to heighten the visibility of the Florida Wildlife Corridor and inspire its permanent protection. The group advocates for the protection of the missing links needed to connect conservation lands in the Corridor. Collaborative efforts to ensure the long-term survival of the Florida Wildlife Corridor will benefit wildlife, watersheds and people for generations to come.

Mallory Lykes Dimmitt is a seventh generation Floridian who fell in love with the outdoors and outdoor adventures at a young age. She pursued a career in conservation, working to protect lands and waters that are increasingly large in scale. She currently serves as the Director of the Florida Wildlife Corridor, promoting an ambitious statewide vision to keep Florida wild.

Mallory will share beautiful photography by conservation photographer Carlton Ward Jr and her own personal account of both the 2012 Florida Wildlife Corridor Expedition from the Everglades to Okefenokee and the 2015 Expedition from the Everglades Headwaters to Gulf Islands National Seashore (Glades to Gulf). She will show a teaser for the upcoming film *The Forgotten Coast: Return to Wild Florida* by Eric Bendick / Grizzly Creek Films. The keynote presentation will be followed by a screening of the film from the first trek, *Florida Wildlife Corridor Expedition: Everglades to Okefenokee*, by Elam Stoltzfus / Live Oak Production Group.

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Session A-1: Invasives & Wildlife | Monday, October 19, 2015 | 1:00pm-2:00pm

What's in Your Yard? Managing Invasive Wildlife in Your Florida-Friendly Landscape

Steve A. Johnson, UF/IFAS Associate Professor, Department of Wildlife Ecology and Conservation

Florida is home to a great diversity of native wildlife. Unfortunately, the Sunshine State has been invaded by many species of introduced animals, some of which have become invasive and need to be managed at local and regional scales. Introduced species of wildlife include mammals, birds, fish, amphibians and reptiles. And Florida has the dubious distinction as being the global center for invasion of amphibians and reptiles.

In this session I will educate home owners about various aspects of invasive wildlife and explain how several target species should be managed to ensure a Florida-Friendly Landscape, addressing FFL Principles 5 & 6. My presentation will cover:

- Defining introduced and invasive species
- Invasion pathways—how various species of wildlife find their way to Florida
- Overview of problems caused by invasive species
- Why Florida is an epicenter for species invasions
- Summary of introduced wildlife in Florida
- Case studies for several problematic amphibians and reptiles
- Strategies for managing and reporting invasive wildlife in your yard

Case study species addressed in detail include these amphibians and reptiles:

- Cuban Treefrog
- Cane Toad
- Brown Anole
- Tegu Lizard
- Monitor Lizard
- Large Constrictor Snakes

To augment my PowerPoint presentation and enhance species identification, I will have preserved specimens on display for talk attendees to examine.

The websites listed below provide useful resources on invasive species:

- UF Wildlife Website: ufwildlife.ifas.ufl.edu (information on invasive species and native wildlife including online guides to Florida snakes and frogs/toads)
- Early Detection and Distribution Mapping System—EDDMapS: www.eddmaps.org (invasive plants and animals information, maps of species distributions, ability to report sightings)
- Introduced Reptile Early Detection & Documentation—REDDy: ufwildlife.ifas.ufl.edu/reddy (background on the program and portal to access the free REDDy online training)
- IFAS Extension Solutions: Invasive Species: solutionsforyourlife.ufl.edu/environment/invasive_species (numerous links to invasive species resources)

Session B-1: Hort & Garden | Monday, October 19, 2015 | 1:00pm-2:00pm

Beautiful Gardens Begin with the Seed

Shirley Barber, St. Johns County Master Gardener Volunteer

Growing from seed can offer you the opportunity to be a major contributor to community outreach projects. St. Johns County Master Gardeners have donated plants grown from seed to numerous public gardens, school projects, Community Assisted Agriculture and the St. Johns County Agriculture Center gardens. Master Gardener plants sales have funded improvements to the Ag Center that include constructing, irrigating and fencing the community gardens, establishing and dedicating the Master Gardener Memorial Garden, and building a greenhouse, covered pavilion, gazebo and observation deck.

The St. Johns County Ag Center gardens have been the venue for many events that include flora and fauna camps for children, photography and birding group excursions, weddings, Gardenfest, Spring Blitz, Home and Garden Shows, and EPIC Flower Expos. Last year St. Johns County was honored to be selected as a display garden for All American Selections, with most of the varieties grown from seed.

Shirley brings 30 years of seed propagation experience and will share common practices, pitfalls and great successes. Below is an outline of topics covered in this session:

- Every garden begins with the seed – the miracle of the seed!
 - Feed disadvantaged populations, grow organic crops, control erosion, create beautiful landscapes
- Perhaps you have tried...discouraged, experienced failures...Reasons?
 - Too wet, too dry, not enough light, hardening off too quickly
 - Do your research – resources available online, IFAS documents
- Why start from seed? Diversity, collections, plants available when you want them, new varieties
- Learn botanical names - clues about the plant from the name
- Seed sources: Online and local vendors. Some varieties not true from collected seed
- Seed storage: Avoid heat; cool, dry storage in refrigerator
- How long are seeds viable?
- Unlock the seed: stratification, scarification, fire, light
- Prepare containers – clean with soap/bleach solution
- Timing: seeding for warm and cool seasons
- Temperatures for germination: cool and warm season varieties; indoor and outdoor
- Why seed indoors? Rain, interference from pests. Winter protection, light stand indoors
- Soilless starting medium: Moisten with warm water. Do not store airtight. Wear gloves
- Sowing the seed: my method versus the community flat
- Cover the flat with loose fitting hood to increase humidity; however, avoid damp off
- Place flat under fluorescent light within inches
- Water - avoid bottom watering (too wet); avoid water from water softener
- Fertilizer - No need to fertilize seed flats – very mild fertilizer when transplanting
- Pests and diseases – fungus gnats and damp off prevention
- Pricking out: when slightly dry into damp medium.
 - Avoid soils with fertilizers for seedlings. Add extra perlite during rainy season.
- Hardening off: heartbreak if not done properly; disasters (rain, wind and sun)
- Keep good records – valuable resource year to year.

There are set backs, but so many successes. Keep trying...the conditions will be different each time and you have learned so much from past experience and observation.

Session C-1: Soils & Diagnostics | Monday, October 19, 2015 | 1:00pm-2:00pm

Biofertilizer: Mycorrhizae

Abid Al Agely, UF/IFAS Soil Microbiologist, Soil & Water Science Department

Soil is home to millions of microorganisms, most of which are very important for healthy plant growth. Most of these microorganisms influence soil fertility and plant productivity through decomposition and nutrient recycling, but some, such as mycorrhizal fungi and nitrogen fixing bacteria, directly interact with plants and promote their growth and soil habitat. In this session, mycorrhizae and their impact on plants and soil fertility will be discussed.

Main Topics:

1. What are mycorrhizae? An Overview of:
 - History
 - Evolution
2. Mycorrhizal Development:
 - Initiation
 - Colonization
 - Hyphae and Spores Formation
 - Survival Strategy
 - Environmental Conditions
3. Mycorrhizal Impacts on Plants and Soils:
 - Plant Growth – Nutrients and Water uptake
 - Plant Health – Protection from disease and physiological stress
 - Soil Structure – Increase soil aggregates and Organic Matter
 - Phytoremediation

Session D-1: Florida-Friendly Landscaping™ | Monday, October 19, 2015 | 1:00pm-2:00pm

Tips and Strategies for a Successful Demonstration Garden

Joe Sowards, UF/IFAS Extension Volusia County, Urban Horticulture Agent and Master Gardener Coordinator

Claire Lewis, Florida-Friendly Landscaping™ Program, Statewide Florida Yards & Neighborhoods Coordinator

It's important to teach Florida residents the principles and practices of Florida-Friendly Landscaping™ (FFL) and the message can be greatly enhanced when each of the nine principles can be demonstrated first-hand. Creating demonstration gardens at county extension offices and other UF/IFAS facilities is essential to show stakeholders effective, innovative, and functional ideas of how they can incorporate FFL principles into their own landscapes.

Session participants will learn the trials and tribulations associated with creating an extensive, multi-faceted landscape that not only encompasses all nine FFL principles but also elements of low-impact development such as permeable pavements, cisterns, and solar power.

Demonstration gardens are a powerful teaching tool that should be part of our educational efforts. Funding can be challenging, and we will discuss looking for possible funding sources such as county and municipal grants and other sources.

Session A-2: Invasives & Wildlife | Monday, October 19, 2015 | 2:15pm-3:15pm

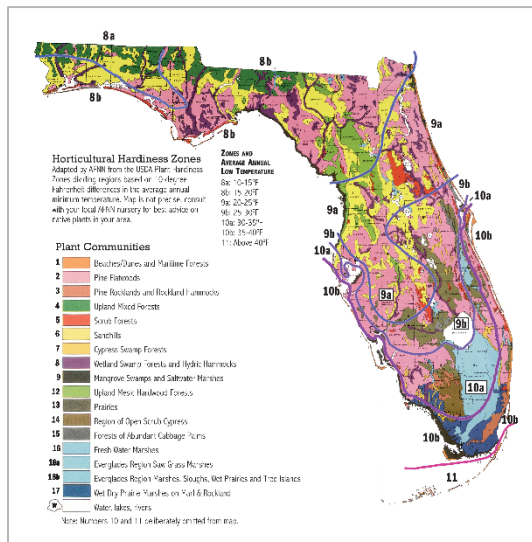
Teaming with Nature: Landscaping with the Natives

Mary Jane Cary, Collier County Master Gardener Volunteer, CollierMG@ifas.ufl.edu

Florida is the third most diverse state in plants and wildlife, with residents from all five kingdoms of living organisms. The Sunshine state is home to over 1,200 species of terrestrial, fresh and salt water animals, over 4,200 plant species, along with thousands of Protists (microscopic multi-chromosome organisms like algae), Monerans (microscopic single-chromosome, no nucleus organisms, like bacteria), and Fungi, including mushrooms, mildews, molds and yeasts.

Meet the locals who live, or would like to live, in your community

- NatureServe Explorer <http://www.natureserve.org/conservation-tools/data-maps-tools/natureserve-explorer>
- Florida State University Florida Natural Areas Inventory (FNAI) <http://www.fnai.org/index.cfm>
- University of South Florida Atlas of Florida Vascular Plants <http://florida.plantatlas.usf.edu/>
- University of Florida Wildlife Extension Local Wildlife http://www.wec.ufl.edu/extension/wildlife_info/
- Florida Fish and Wildlife Commission Species Profiles <http://myfwc.com/wildlifehabitats/profiles/>



Identify Favorite Local Foods and Cover

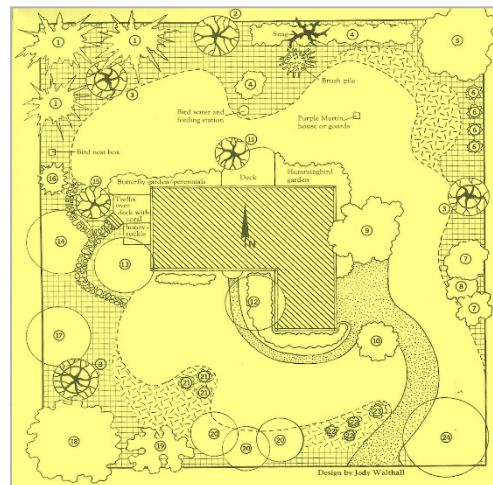
- FNAI Guide to Natural Communities http://www.fnai.org/pdf/natural_communities_guide.pdf
- SSFOR12 Establishing Wildlife Food Sources <http://edis.ifas.ufl.edu/pdffiles/FR/FR06200.pdf>
- SSFOR15 Providing Wildlife Cover <http://edis.ifas.ufl.edu/pdffiles/FR/FR12400.pdf>
- WEC248 The Value of Oaks for Wildlife <http://edis.ifas.ufl.edu/pdffiles/UW/UW29200.pdf>
- ENH1160 Community Butterfly-scaping <http://edis.ifas.ufl.edu/pdffiles/EP/EP42000.pdf>

Florida Native Plant Communities

<http://www.floridanativenurseries.org/plant-communities>

Create Favorite Space – From Idea to Reality

- CIR1429 Top Ten Tips for Landscaping for Wildlife <http://edis.ifas.ufl.edu/pdffiles/UW/UW17500.pdf>
- CIR912 Creating Freshwater Wetland Habitat <http://edis.ifas.ufl.edu/pdffiles/FA/FA00700.pdf>
- WEC163 Bird’s Eye View: How Birds Select Habitat <http://edis.ifas.ufl.edu/pdffiles/UW/UW17400.pdf>
- WEC325 Modify Habitat to Discourage Nuisance Wildlife <http://edis.ifas.ufl.edu/pdffiles/UW/UW37000.pdf>
- **From the UF | IFAS Bookstore:** SP208 *Landscaping for Florida’s Wildlife*, by Joe Schaefer and George Tanner, University Press of Florida, 1998. ISBN 0-8130-1571-5.



Florida-Friendly Landscape™ Design

<http://edis.ifas.ufl.edu/pdffiles/EP/EP42400.pdf>

Session B-2: Hort & Garden | Monday, October 19, 2015 | 2:15pm-3:15pm

Not Your Average Palm

Christine Kelly-Begazo, UF/IFAS Extension Indian River County Agriculture Agent

Palms are immediately recognizable throughout the world and often give off a romantic and tropical feel to any landscape. They have played an important role for humans throughout history and are one of the most extensively cultivated families in the plant kingdom. There are over 200 genera with about 2600 species of palms, and although they are mostly restricted to tropical and subtropical climates, they can be found in temperate climates, mountainous areas, and deserts.

For centuries, humans have cultivated palms for food and drink, fiber and housing material. They have also employed the fermentation of palms to make alcoholic beverages like wine and toddy and used them for medicinal and hallucinogenic purposes. In some cultures, palms hold a revered place as symbols of fertility, peace and victory. Many everyday products that we depend upon are derived from palms; oils, syrup, dates, nuts, wax, canes for furniture and wood for building construction. This presentation takes a look at some unusual palms, special anatomical features and the strange adaptations of the *Arecaceae* family. It also looks at plants that are palm-like, and that lend a Jurassic-era feel to any landscape.

The majority of palm species grow best in zones 8-10, but there are some species that can be found below 32°F and the needle palm has survived in -20°F. Palms are generally identified by their leaf arrangement along the rachis. Pinnate leaf arrangement is the most common and has the sub-arrangement of bi-pinnate structure which gives the palm an overall feather-like construct. The 5 most economically important palms have a pinnate leaf structure (coconut, African oil palm, Date palm, Betel nut palm and the peach palm of Costa Rica.) Palmate is another common leaf structure where the leaflets radiate out from the base and is circular or semi-circular. These leaflets can range greatly in size with the smallest being about the size of the human hand (some lady palms *Rhapis* spp.) and the largest being 5m across (talipot palm *Corypha umbraculifera*).

Some species of palms have created strange adaptations to help them survive; these could be spines, thorns, seed-bearing structures, point of attachment for leaves, unusual bases or scars, thatch, hair or burlap-type additions and modified leaflets. One of the more unusual adaptations would be on the Spiral palm (*Pandanus spiralis*) where modified structures form a spiral-like effect upward all along the trunk to the leaflets. Another unusual structure would be the mass of hairy-like tendrils that form at the base of the Old Man palm (*Coccothrinax crinita*) given this palm a beard at the base.

There are also many other plants that are called “palms” because of their overall appearance but they are not palms at all. One very common plant in Florida that is mistaken for a palm is the ponytail palm (*Beaucarnea recurvate*). The ponytail palm, or elephant’s foot, is in the *Asparagaceae* family and is not even closely related to true palms. This plant is native to eastern Mexico and the expanded caudex at the base is used for water storage. Another plant with a mistaken identity is the grandiose Traveler’s palm (*Ravenala madagascariensis*) which really is a member of the *Strelitziaceae* family and is related to the bird-of-paradise. It is called “traveler’s palm” because the sheaths of the stems hold rainwater and could be used in an emergency for weary travelers.

Session C-2: Soils & Diagnostics | Monday, October 19, 2015 | 2:15pm-3:15pm

Soil Testing and Figuring Out What Your Soil Needs

Rao Mylavarapu, Professor and Director, UF/IFAS Extension Soil Testing Laboratories, Soil & Water Science Department

Predictive and Diagnostic Testing of Nutrients for Sustainable Crop Production

Recommendations made for nutrient applications have traditionally focused on economic yield and quality. However, present-day testing procedures and recommendations are required to simultaneously ensure economic and environmental sustainability of agricultural production systems. A soil test is a calibrated index relating crop response to applied nutrients. Any application rate devoid of an economical response in yield or quality is deemed unnecessary. Therefore, a soil test becomes the first step in any nutrient best management practice (BMP) development, implementation, and monitoring activity. Soil testing is a multistep process starting with the collection of a sample. The sample has to be a true representative of the area. Test results and recommendations will be only as good as the sample. The need for an appropriate representative sample can never be overemphasized. In the laboratory, the first step is extraction or digestion of the sample. The method employed is specific to the nutrients, soil pH and organic content of the soils and therefore, multiple methods exist. In Florida, we have four methods for three major groups of soils- acid soils ($\text{pH} \leq 7.3$), calcareous soils ($\text{pH} \geq 7.4$) and organic (muck) soils. So, the first step at the lab is to test for pH to determine if the soil sample is acidic or calcareous. Based on the category determined the appropriate soil extractant procedure is implemented. Currently, for acid-mineral soils, the extractant used is Mehlich-3, for calcareous soils the extractant is Ammonium-Bicarbonate (AB-DTPA) and for muck soils Mehlich-3, water and ammonium acetate are used as extractants for specific nutrients. Studies are currently underway to determine the validity of Mehlich-3 for all categories of soils and for all nutrients. The second and most important step in this entire process is Interpretation of the test results for the intended application. State laboratories backed by nutrient management and environmental quality research and infrastructure make this process credible. Once the test results are interpreted, nutrient recommendations are formulated based on the field calibrated crop response. Lime requirement is also determined where appropriate using a buffer solution along with regular soil pH value. Lime requirement cannot be determined by a regular pH test alone. Such a determination will be erroneous. In addition to the soil test results and recommendations, several footnotes are also included in the reports, providing tips on the split doses, rates, timing, irrigation, and other management practices, and those footnotes form an integral part of the recommendations. A soil test for nitrogen (N) is not provided because there is no credible method to estimate the amount of plant available N from soils. The N requirement is therefore obtained from the available research data. Soil and plant tissue tests are complementary and serve different purposes. Plants may not show any visible symptoms, but the nutrient content maybe insufficient to reduce the yields and is a result of multiple dynamic factors. Due to such complexity, leaf analysis has to be integrated with soil analysis. In Florida, two such new tests have been developed and implemented- for bahia pastures and commercial citrus. In both tests, the P requirement is determined by a combination of a complementary soil and plant tissue tests and results (Mylavarapu et al., 2014a & b).

References

- Mylavarapu, R., D. Wright, G. Kidder. 2015. UF/IFAS Standardized Fertilization Recommendations for Agronomic Crops. SL129, Soil & Water Science, IFAS Extension.
- Mylavarapu, R., W. d'Angelo, N. Wilkinson and D. Moon. 2014. UF/IFAS Extension Soil Testing Laboratory (ESTL) Analytical Procedures and Training Manual. Circular 1248. Soil & Water Science, IFAS Extension
- Mylavarapu, R., T.A. Obreza, K. Morgan, G. Hochmuth, V. Nair and A. Wright. 2014. Extraction of Soil Nutrients Using Mehlich-3 Reagent for Acid-Mineral Soils of Florida. SL407, Soil & Water Science, IFAS
- Extension IFAS Analytical Services Laboratories (ANSERV Labs)- <http://soilslab.ifas.ufl.edu>

Session D-2: Florida-Friendly Landscaping™ | Monday, October 19, 2015 | 2:15pm-3:15pm

Frustrated By Fertilizers: Getting To Know Those Nutrients and What's in the Bag

Laurie E. Trenholm, PhD, UF/IFAS Turf Specialist, Environmental Horticulture Department

Knowing what fertilizer to use on your lawn can be confusing. There are so many options to choose from! Do you go with slow release or soluble, synthetic or organic, how much nitrogen should be in the bag, should phosphorus be applied, what about weed and feed? Then you still need to know when to fertilize, how much to apply, how many times a year, and what exactly is 1 lb. of N anyways?

Don't despair, help is available! Background reference information can be found at <http://www.edis.ifas.ufl.edu/ep236>, Homeowner Best Management Practices for the Home Lawn and other related edis publications. We will discuss all of these topics in this talk. Below is an outline of what to expect:

- Turf fertilizer needs
 - Why turf needs fertilizer
 - Annual nitrogen rates
 - Phosphorus needs
 - Potassium needs
 - Micronutrient needs
 - Soil testing
- Fertilizer sources
 - Slow release vs. quick release
 - Turf responses
- Anyone can figure out how to apply 1 lb. of N per 1,000 square feet
- The science of nitrate leaching
- Best management practices

Session A-3: Invasives & Wildlife | Monday, October 19, 2015 | 3:45pm-4:45pm

Coping with Wildlife That Can be Dangerous or Damaging

Holly Ober, UF/IFAS Associate Professor, Department of Wildlife Ecology and Conservation

Bill Giuliano, UF/IFAS Professor, Department of Wildlife Ecology and Conservation

Steve Johnson, UF/IFAS Associate Professor, Department of Wildlife Ecology and Conservation

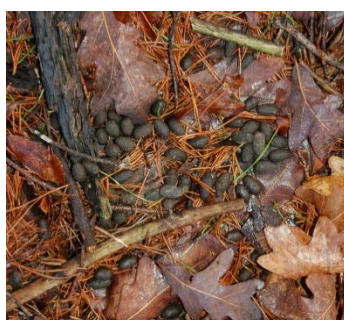
Wildlife are generally considered favorably by Floridians. We are fortunate that Florida is home to a large number of wildlife species. Many of us go to great lengths to attract these animals to our properties so we have opportunities to view them. However, there are situations where certain wild animals can become problematic, either by damaging human property or presenting some sort of danger to humans.

We recently developed two series of EDIS documents outlining recommendations on how to deal with problematic wildlife. The first is a 5-part series that provides a conceptual understanding of how to cope with wildlife that have become a nuisance. We suggest a sequence of steps you can implement when wildlife are causing damage in residential settings. These suggestions should help reduce wildlife damage in a practical, humane, and environmentally responsible manner.

- Overview of How to Stop Damage Caused by Nuisance Wildlife in Your Yard
- How To Identify the Wildlife Species Responsible for Damage in Your Yard
- How to Modify Habitat to Discourage Nuisance Wildlife in Your Yard
- How to Use Deterrents to Stop Damage Caused by Nuisance Wildlife in Your Yard
- How to Use Traps to Catch Nuisance Wildlife in Your Yard

The second series of EDIS documents contains 7 articles that provide more specific details on a range of wild animals found in Florida, including panthers, bears, coyotes, wild hogs, deer, alligators, snakes, and non-native frogs. These specific wildlife were selected because they are often perceived by the public as dangerous or damaging. Each of these articles provides background information on each of these wildlife taxa, describes the more common risks associated with each, and suggests recommendations on how to prevent or minimize those risks.

- Managing Conflicts with Wildlife: Living with Alligators
- Managing Conflicts with Wildlife: Living with Bears
- Managing Conflicts with Wildlife: Living with Coyotes
- Managing Conflicts with Wildlife: Living with Deer
- Managing Conflicts with Wildlife: Living with Frogs
- Managing Conflicts with Wildlife: Living with Panthers
- Managing Conflicts with Wildlife: Living with Wild Hogs
- Managing Conflicts with Wildlife: Living with Snakes



Session B-3: Hort & Garden | Monday, October 19, 2015 | 3:45pm-4:45pm

Garden Art

Dale Galiano, St. Lucie County Master Gardener Volunteer

Every garden is very personal. Be it your own or a friend or neighbor's backyard, a community/botanical garden, or a local shop or business garden. Choices of plants, design, needs, and vicinity play into the finished product. Bottom line is, all things considered, a garden should show the owner's personality.

Finances or budget can and do play into the end result. However, art in any size garden is an essential factor and can be achieved in many different ways. From grand statuary worth thousands to draw your attention to a business or focal point, to a simple WOW moment when you turn a corner in a friend's backyard to find a fairy garden in a pot or a handmade totem comprised of family memorabilia, or a secret garden all set for an afternoon tea. A simple collection of birdhouses or hand painted pots can make all the difference to the final look.

Art breaks the flow that can give an emotional moment. All gardens can and should insight joy, surprise, wonder, curiosity, even memories. A well-positioned item, landscape or hardscape can personalize a garden just by its placement. It can also showcase a plant with a unique bloom or different textured leaf. A well-placed piece of art can quickly show the variances of greens in a non-blooming time.

Reuse items to bring the inside out: Place a grandson's rubber lizard on a rock to make you smile every time you pass since he's in college now. Take water jugs to make a vertical propagation garden. Showcase grandmother's teacup as a butterfly feeder. Think out of the box and make outside spaces your own.

Things that make you smile from the simplest of family crafts to a featured item or plant you've been saving for that special place.

This is the class that will help you get to the next level with your favorite place...your garden.

Class Highlights

- Learn what the eye really sees in your garden. Get a bigger bang for all your hard work and plant choices – getting those WOW moments in your garden.
- Garden Styles through Art: Show and include your personality in your garden by learning how to achieve and incorporate hardscape and interesting items.
- Secret, Fantasy, and Surprise Gardens: Which one is right for you?
- Trash to Treasures: "Rainy Day Fun" how-to projects.
- Recycle, Repurpose, and Reuse Projects: Unique gardener helpers and ideas.
- For full program "Garden Art", visit: <http://stlucie.ifas.ufl.edu/MiscResources.html>

Session C-3: Soils & Diagnostics | Monday, October 19, 2015 | 3:45pm-4:45pm

Plant Disease Diagnosis: How to Make a Sick Plant Talk

Carrie Lapaire Harmon, PhD, UF/IFAS Plant Diagnostic Center Director, Department of Plant Pathology

Master Gardeners serve as an important focal point for Florida's citizens to learn about and apply plant disease management. However, if we can't identify the problem, we can't fix it. Attend this session to learn basic disease recognition, management, and who can help when the plants can't speak for themselves.

We will introduce the disease pyramid, basic symptoms and signs of plant diseases, what kinds of questions to ask a client, and how to take a sample, package it, and interpret results from the Plant Diagnostic Center.



Submitting Samples

10 Tips for Collecting a Good Sample



Plant disease diagnosis depends upon the quality of the sample submitted and the information provided by the submitter. Please see the sample submission guide for more details on sample submission (<http://edis.ifas.ufl.edu/sr007>).



1. Don't wait until it's too late: Submit your sample before the problem becomes widespread, while the disease is still manageable.

2. Sample before you spray: Take samples before applying pesticides.



3. No dead samples: Your sample should be declining but still alive (green).

4. More, more, more: Submit generous amounts of plant material with a range of symptoms.



5. Don't forget your roots: Roots should be kept intact. Hand shake excess soil from root systems, leaving enough soil to keep roots moist.

6. Keep them separated: Bag roots and soil with a tie at the main stem. Wrap dry foliage in newspaper before placing the entire plant in a loosely tied bag. Do not mix different samples in the same submission bag.

7. Attention to detail: Complete the Plant Clinic Sample Submission form with all pertinent information. Include the name of plant, location, percent affected, symptoms of concern, distribution, soil type and drainage, and fertilizers and pesticides used recently. This information will expedite the diagnosis process.

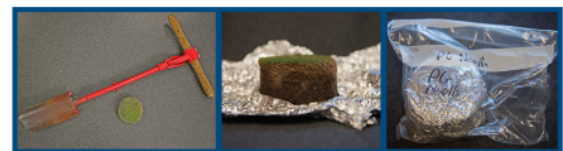
8. Cool and fresh: Refrigerate samples after collection until submission. Mail or deliver samples as soon as possible after collection. Mail samples early in the week because plants will rot if in transit over the weekend. Use overnight mail for emergency samples.

9. Handle with care: Mail samples in crush proof boxes with packing material for protection.

10. Extension Services can help: There is a UF/IFAS Extension office in every county in Florida. Extension Educators, along with the Electronic Data Information Source (EDIS) website of UF/IFAS Extension, can be a great resource.

Extension office: <http://solutionsforyourlife.ufl.edu/map/>
EDIS: <http://edis.ifas.ufl.edu>

Rapid Turfgrass Diagnostic Service example samples below. <http://turf.ufl.edu/rapiddiag.shtml>



Session D-3: Florida-Friendly Landscaping™ | Monday, October 19, 2015 | 3:45pm-4:45pm

Bridging the Divide: Strategies for Homeowners and HOAs Working Together

Gail Hansen, PhD, UF/IFAS Urban Landscape Specialist, Environmental Horticulture Department

Many homeowners have become more aware of the environmental impacts of maintaining traditional residential landscapes in their communities, and their concern has led to a decision to change their landscapes to a more Florida-friendly yard. Although homeowner association (HOA) regulations can make it challenging to implement some changes, gaining approval is possible with careful planning and by using an educated approach to working with the HOA board. Below are several strategies for working within HOA regulations to gain approval for a Florida-Friendly landscape:

- 1: Become familiar with Florida-Friendly landscapes.** Learn about the nine principles of Florida-Friendly landscapes. Locate plants in traditional foundation plant beds, use turf strips along sidewalks or curbs in front yards, use a variety of plant material for bio-diversity, and design for maintenance.
- 2: Understand the Florida-Friendly state law.** The Florida law, effective 2009, gives homeowners greater rights to implement Florida-Friendly landscaping on their properties, however, the homeowner is required to go through the approval process as they would for any landscape change.
- 3: Become familiar with your HOA landscaping rules and regulations.** When purchasing a home in a deed restricted community you agree to abide by the covenants. Before starting your landscape project review your association approval process, check plant lists and regulations, and check turf requirements.
- 4: Observe landscapes in your community.** Take note of other yards in the community for clues to acceptable landscapes. Study the style of the yards in your neighborhood; note the arrangement and layout of plants, note plant choices, and note use of turf in the yards.
- 5: Study photos of Florida-Friendly yards from other communities.** Look for photo examples of Florida-Friendly yards from other communities on the FFL web site or the web page of your local extension office. Collect photos of FFL yards you like and include photos in your application to the board.
- 6: Conduct an inventory and analysis of your yard.** Your application will most likely require a landscape plan. To do this you will need to inventory (a record) the existing conditions in your yard and you will need to analyze (decide) how this will affect your plant and design choices.
- 7: Create a list of Florida-Friendly plants.** One important aspect of a Florida-friendly yard is plant material. Use the Florida-Friendly Landscaping™ program design guide to compile a list of plants for your yard. Compare your plant list with a list of plants that grow well in your neighborhood, and check your list against any recommended plant list in your covenants.
- 8: Use hardscape or groundcover in your yard.** Some homeowners would like to reduce the turf in their yard to decrease maintenance time and irrigation costs. There are several options to replace turf typically accepted under most covenants as long as you retain the minimum required amount of turf.
- 9: Develop a landscape plan.** Although a simple landscape plan can be a DIY project, a signed and sealed professional plan will offer assurances to the board that the plan is well designed.
- 10: Include a description of the landscape in your application.** A written description will help explain the look and intent of the new landscape. Explain neighborhood fit and explain your plant choices.

Gaining approval for your proposed landscape is more likely if you follow the strategies outlined in this document. The most important concept is assuring the board members that your landscape will not deviate greatly from the neighborhood norm and the aesthetic appeal or “look” of the landscape will be maintained. The key is to use the strategies that work with the covenant restrictions yet allow a more Florida-Friendly landscape.

General Session 2 | Monday, October 19, 2015 | 5:00pm-6:00pm

Bromeliads, Backyards, and Mosquitoes

Roxanne Connelly, UF/IFAS Professor and Medical Entomology Specialist

This session will include discussions about mosquito-borne diseases from a global to a local perspective; mosquitoes in Florida as pests and as vectors of pathogens that can cause disease; mosquito species occurrence and seasonality in Florida; and integrated pest management (IPM) of mosquitoes.

IPM of mosquitoes includes many components that are the responsibility of county and city government public health vector control districts such as aerial and ground applications of mosquito control products. However, since mosquitoes occur in every Florida county and can be found in most backyards, *Bromeliads, Backyards and Mosquitoes* will focus on the source reduction component of IPM as it applies to homeowners and the general public. Water holding containers are a major source of mosquitoes that can transmit pathogens that cause dengue, chikungunya, and dog heartworm. It is essential that Floridians know how to recognize the mosquitoes that can cause disease and to learn techniques to reduce the mosquitoes to prevent bites and infections.

Attendees can expect to learn to recognize 3 – 4 species of Florida mosquitoes that are common in the Florida landscape; how to inspect properties for sources of mosquito larvae; and how to perform “source reduction” techniques to reduce the number of mosquitoes generated on private property.

References and Resources:

Common mosquitoes of Florida ID Deck: <http://ifasbooks.ifas.ufl.edu/p-273-common-mosquitoes-of-florida-id-deck.aspx>

Mosquito information website: <http://mosquito.ifas.ufl.edu>

Mosquitoes and their control: <http://ifasbooks.ifas.ufl.edu/p-1273-mosquitoes-their-control.aspx>

General Session 3 | Tuesday, October 20, 2015 | 8:00am-9:30am

Underutilized and Fantastic Woody Plants for Florida Landscapes

Jason A. Smith, Associate Professor of Forest Pathology, UF/IFAS School of Forest Resources and Conservation, Gainesville, FL 32611, jasons@ufl.edu

Gary Knox, Professor of Environmental Horticulture, UF/IFAS North Florida Research and Education Center, Quincy, FL 32351, gwknox@ufl.edu

Most of us in the business of helping create and maintain healthy urban forests in Florida recognize the urgent need to diversify our palette of trees that are planted. The benefits of diversification are realized both immediately and in the future. Greater diversity leads to greater resilience, increased wildlife habitat and simply more interesting landscapes. Curiously, Florida seems to suffer from rampant use of the same old, same old – leading to urban forests that are significantly lacking in diversity. The goal of this presentation is to introduce the audience to what should be planted more in Florida. The following species and cultivars have been identified as having horticultural merit for Florida use, and their attributes will be presented and discussed. N = North Florida, C = Central Florida, S = South Florida

Generally Available

- *Dyckia*: colorful foliage, flowers; e.g. 'Grape Jelly' and 'Platinum Star'
- *Camellia* October Magic™ series and others (NC): sasanqua type camellias bred for landscape performance, various growth habits, extended bloom, varied flower colors and forms; too new to know which are best
- Hardy hibiscus, *Hibiscus moscheutos* hybrids (NC): 'Midnight Marvel', Luna®, Luau®, Summerific®, other series; many good older cultivars; lots of breeding so look for more in the future
- Soft Caress® Mahonia, *Mahonia euryabraceata* Soft Caress® (NCS?)
- Muhly grass, *Muhlenbergia capillaris* cultivars (NCS) 'Purple Haze' (new from UF/USDA-NRCS), 'Fast Forward'™, 'Morning Light', 'Morning Mist'
- Rose-of-sharon, *Hibiscus syriacus* (NC): better flowering forms such as Blueberry Smoothie™, variegated Sugar Tip® (aka 'America Irene Scott'); lots of breeding so look for more in the future
- Oakleaf hydrangea, *Hydrangea quercifolia* (NC): new compact forms ('Munchkin', 'Ruby Slippers') and pinkish flowers
- Shrub rose, *Rosa* (NCS?): Knock Out® and Drift® generally good performers; others are Meidiland®, Look-A-Likes®; more coming from breeders Will Radler and Alain Meilland, including yellow, lavender, bright red, fragrant and compact
- Edibles, e.g. Blueberry, *Vaccinium* spp. (NC), the "gateway" plant attracting people to woody edibles in the garden
- Chastetree, *Vitex agnus-castus* (NCS): compact and floriferous cultivars like 'Montrose Purple' and new pink colors ('Blushing Spires'); lots of breeding so look for more in the future
- New crapemyrtles (*Lagerstroemia* spp.) with season-long dark leaves (NC); these include Delta Jazz® Series, Ebony = Black Diamond™ Series, Magic™ Series
- Magnolias (deciduous): 'Jon Jon' (big flowers for 6 weeks starting early March), 'Daybreak' (true pink flowers!), 'Butterflies' (best yellow flowers for 6 weeks starting early March)
- Ashe magnolia, *Magnolia macrophylla* var. *asheii*; endangered Florida native with huge leaves and flowers (NC)
- Southern magnolia (*Magnolia grandiflora*; NC): new cultivars Teddy Bear® (compact), 'Kay Parris' (improved 'Little Gem'), Baby Grand® (dwarf)
- Sweetbay magnolia, *Magnolia virginiana*, (NCS) underused
- Columnar forms of tulip tree (*Liriodendron tulipifera* 'Arnold') and sweetgum (*Liquidambar styraciflua* 'Slender Silhouette') (NC)
- *Metasequoia glyptostroboides* and cultivars (NC)

- Spruce pine (*Pinus glabra*) (NCS?)
- *Quercus alba* and *Q. michauxii* (NCS native) (NCS?)
- Baldcypress, *Taxodium* spp. (NCS): overlooked as a great native deciduous tree; look for interesting cultivars 'Jim's Little Guy', 'Cave Hill' (dwarf), 'Peve Minaret' (narrow), 'Cascade Falls' (weeping); Others: Autumn Gold™, 'Secrest' (dwarf), 'Pendens' (weeping), Shawnee Brave™ (narrow)

Worthy of a Hunt

- Acacia species with incredibly fragrant flowers (*A. farnesiana* etc.) (N?CS)
- Evergreen maples (*Acer coreaceifolium* and *A. fabri*) (NC)
- Taiwanese maple (*Acer oliverianum* ssp. *formosanum*) (NC)
- Yellow bells, *Tecoma stans* cultivars (NCS?): compact, floriferous forms with yellow or orange flowers ('Bells of Fire'™, 'Sangria')
- 'Elizabeth Coleman' Holly, *Ilex latifolia* 'Elizabeth Coleman' (NC)
- *Gordlinia grandiflora* and cv. Sweet Tea (NC): hybrid of *Franklinia alatamaha* and our native *Gordonia*; perfect intermediate that is more adaptable and still has spectacular flowers
- Tea olive, *Osmanthus fragrans* cultivars (NC) Fudingzhu (dwarf), var. *aurantiacus* (orange flowers); Others: var. *aurantiacus* 'Apricot Gold', var. *thunbergii* and 'Conger Yellow' (yellow flowers)
- Fried egg tree, *Polyspora axillaris* (NC)
- Momi fir, *Abies firma* (NC) is a true fir adapted to warm climates
- Chinese fringe tree, *Chionanthus retusus*: fantastic white spring flowers (NC)
- Japanese crapemyrtle, *Lagerstroemia fauriei* (NC) 'Fantasy' and others with fantastic rich red to brown bark and white flowers on medium, deciduous tree
- Weeping river birch, *Betula nigra* 'Summer Cascade' (NC)
- Weeping winged elm (*Ulmus alata* 'Lace Parasol') (NC)

Cool and Inspiring!

- Weeping false butterflybush, *Rostrinucula dependens* (NC)
- *Camellia* spp. with yellow flowers (NC): they exist but are still rare in breeding and commerce
- Queen's crapemyrtle hybrids, *Lagerstroemia speciosa* and *L. indica* × *speciosa* hybrids (CS): improved types with big, bright flowers on a small deciduous tree
- Evergreen Oaks: Loquat-leaf oak (*Quercus rhizophylla*), Canby oak (*Q. canbyi*), Japanese blue oak (*Q. glauca*) (NC)
- Evergreen (*P. nigra* 'Chile') and purple (*P. deltooides* 'Purple Tower') poplars with solid purple leaves all summer. (Fast and big trees) (NC)
- Conifers
 - *Araucaria angustifolia* (NC), Parana "pine"
 - *Juniperus formosana* (NC) with an upright yet weeping form
 - *Keteleeria* sp., *Keteleeria* (NCS): lowland fir relatives from south China
 - *Pinus pseudostrobus*, Smooth-bark Mexican pine (NCS?)
 - Taiwania (Taiwanese redwood) (*Taiwania cryptomerioides*) (NC)
- Magnolias
 - *M. foveolata*, *M. kwangtungensis* (NCS): evergreen with fantastic gold, bronze, brown indumentum; unknown adaptability to alkaline soils
 - *M. sphaerantha*, *M. sapaensis*, *M. rajaniana*, *M. thailandica* (CS): new species with big flowers and unknown potential
 - *M. laevifolia* (NC): evergreen shrub with brown indumentum; 'Michelle' is compact form from Plant Delights Nursery; alkaline soil?
 - Red flowers on an evergreen tree: *M. figo* var. *crassipes* (N), *M. insignis* (NC) and *M. garrettii* (S)

Session A-4: Edibles | Tuesday, October 20, 2015 | 10:00am-11:00am

Creating a Sustainable Food System in Your Backyard

Christine Kelly-Begazo, UF/IFAS Extension Indian River County Agriculture Agent

Many individuals are searching for a place where they can enjoy a peaceful moment, and where they can feel positive about their contribution to the wellbeing of our environment. Creating a sustainable landscape in their own backyard where resources can be used to produce healthy fruits, vegetables, eggs and other products, is both economical and soul-satisfying. This presentation illustrates ten easy steps that can be used to create such an oasis, and to bring a measure of sustainability, utility and beauty to a yard that might currently be un-environmentally friendly as well as monoculturalistic.

If we look at the current state of the average backyard, we usually see single-grass species that invite pests and diseases, landscape plants that are not site appropriate, and a general feeling of malaise due to a lack of diversity. The average homeowner struggles to add beauty to their landscape but the desired look is never truly acquired leaving the homeowner frustrated and disappointed. The ten concepts toward backyard sustainability consist of recycling, composting, water-holding, planting a vegetable garden, animal husbandry, vermiculture, edible landscapes, butterfly gardening and adding herbs in containers. Embarking on this holistic adventure will bring pleasure and satisfaction to each gardener that attempts to create a sustainable backyard, knowing that they have created something to increase natural diversity and help the environment.

Each individual will have their own ideas as to what 'sustainability' means to them. Some people merely want to utilize less resources to save money, others want to know that they are minimizing their own impact on the environment. Many people want to harvest a significant amount of their vegetables from a garden, and still others are satisfied with a few herbs in container gardens. No matter what the reason, each yard can be turned into a system that is more sustainable while producing fresh fruits, vegetables and herbs with little to no impact on the environment. The first step in designing any major change in your landscape is planning. It is important for both you, the trained Master Gardener, and our homeowner clientele, to understand that the most costly step, in terms of money, time and resources, is a lack of planning. It is very important that ideas are put down on paper first and then re-evaluated as time goes on. Many things can interfere with initial plans and so it is imperative that each plan is fluid and can adapt to incorporate change.

Functionality of each component of the landscape should be considered. If you have a dog will it need to have a run area away from fruits and vegetables that will be consumed by members of the household? Will cats be indoor or outdoor pets? There are health concerns regarding cats defecating in garden areas that are different than for other animals and needs to be considered especially if there will be pregnant women or children eating produce from the yard. What parts of the yard will need to be reserved for children to play in or families to enjoy time together? Each of these areas needs to be plotted on paper so that other features can be added without interfering with these activities. Another very important feature that must be identified on your design is the orientation of the sun in the spring/summer as well as the fall/winter. Most plants need at least 6 hours of sunlight in order to grow at their optimum and many a gardener has been thwarted by not paying attention to the sun's pathway throughout the year. Putting this on paper helps the gardener select the most appropriate sites for different features that will add a measure of sustainability to our consumer-orientated lifestyles.

By utilizing a holistic approach to yard management a gardener can truly develop a landscape that will be beautiful, practical, resource-efficient, and produce a bountiful harvest of nutritious food that will nurture both body and soul. Incorporating concepts of recycling, composting, animal husbandry, gardening and edible landscaping can turn the average resource-needy landscape into a beautiful oasis that can be a haven to relax in and find peace after a complicated and stress-filled day on the outside.

Session B-4: Hort & Garden | Tuesday, October 20, 2015 | 10:00am-11:00am

Florida LAKEWATCH: Citizen Scientists Protecting Florida's Aquatic Systems

Mark V. Hoyer, Florida LAKEWATCH Director, UF/IFAS Fisheries and Aquatic Sciences

An abstract for the first part of this presentation is as follows:

Abstract: Florida LAKEWATCH is a successful example of a long-term volunteer water quality-monitoring program that started in 1986. Working with thousands of volunteers, these dedicated citizen scientists have collected reliable long-term water quality data for over 1100 lakes, 175 coastal sites, 120 rivers, and 5 springs. These data encompass water resources in 57 Florida counties. This manuscript describes the start and evolution of LAKEWATCH, including discussions of the following two major (of the many) hurdles to the continued success of the program: 1) demonstrating to professional groups that trained volunteers are capable of collecting credible (research and regulatory quality) data, and 2) maintaining consistent long-term funding. Funding is especially critical because trained and committed core staff is needed to work along with volunteers. Quality staff members are also important to provide direction, ensuring consistent data are collected and enough sites are monitored to answer statewide questions such as how geology impacts water chemistry in Florida. Examples are also provided on how LAKEWATCH data have been used to address lake management issues (i.e., “fixing” the problem) in the State of Florida. We hope the Florida LAKEWATCH experience assists other groups who have a vast army of citizen scientists waiting to get involved and then to best develop a successful monitoring program. Based on an analysis of over 500 LAKEWATCH stakeholder questions, LAKEWATCH found aquatic plants and fish/wildlife issues were the top two major issues of concern (Table 1). Therefore, the second part of this presentation will be about the relations among water quality, aquatic plants and fish/wildlife in lake systems.

Table 1. Summary of topics from questions asked at Florida LAKEWATCH Regional Meeting held from 2009-2014. The number of questions asked about a specific topic are listed in parentheses after the topic.

Aquatic Plants	Fish and Wildlife	Water Level/Access	Water Quality	Lake Uses
Plants (121)	Exotic Species (55)	Lake Water Level (95)	Water Clarity (31)	Swimming Areas (6)
Grass Carp (41)	Sportfish Fish (40)	Sediments (13)	Algae (16)	Jet Skis/Boats (5)
Herbicides (19)	Aquatic Birds (28)	Hurricanes (3)	Color (12)	Trash (4)
Tussocks (4)			Storm Water (9)	Irrigation (2)
	TOTAL 123 (23%)	TOTAL 111 (21%)	Waste Water (9)	
TOTAL 185 (35%)			Bacteria (6)	TOTAL 17 (3%)
			Fertilizers (5)	
			Heavy Metals (3)	
			Oxygen (3)	
			Trends (1)	
			Pesticides (1)	
			TOTAL 96 (18%)	

Session C-4: Soils & Diagnostics | Tuesday, October 20, 2015 | 10:00am-11:00am

Gardening is Really All About the Soil: Always Was & Always Will Be!

Sally Scalera, UF/IFAS Extension Brevard County Urban Horticulture Agent & Master Gardener Coordinator

It appears as though gardeners accept insect and disease problems as normal occurrences. Just stroll through any garden center and you will find shelves stocked full of insecticides and fungicides. However, nature shows us that insects and diseases shouldn't be so readily accepted since plants grow in the wild without human interference or assistance. They benefit from healthy, biologically active soil.

The goal of gardening should be to create a biologically active soil that is teeming with life. Organic matter, the carbon content of the soil, is the basis for a biologically active soil because it serves as both a food source and home for the beneficial soil microbes. Without the presence of organic matter it is impossible to produce plants that can attain the level of health required to protect themselves from insects and diseases. In addition to organic matter, the soil food web is a crucial component needed for achieving healthy plants. The soil organisms that assist the plants include fungi, bacteria, arthropods, nematodes, protozoa, and earthworms. Though the term fungi usually conjures up negative feelings, don't forget about the mycorrhizae that form symbiotic relationships with plants. Approximately 90% of all plants are colonized by mycorrhizae. The soil microbial community as a whole is extremely important to ecosystem function because they run the nutrient cycles within the soil. Nutrients such as carbon, nitrogen, phosphorus, and others are converted from inorganic to organic forms, and then back to inorganic forms over and over again.

The four stages of plant growth are as follows:

Stage One: Effective photosynthesis: At this first level of growth, the creation of complete and complex carbohydrates helps to build up the plants resistance to soil-borne fungal pathogens such as Verticillium, Fusarium, and Alternaria.

Stage Two: Creation of complete proteins: In this stage the plant releases up to 40% of its carbohydrates as root exudates to the soil microbes. In return, the soil microbes make a variety of nutrients available in plant available forms. This symbiotic relationship results in the plant's increased resistance to insects.

Stage Three: Storage of excess energy: Lipids, fats and oils are stored for energy that the plants use for shoot or root growth, flowers, fruit, chemical defenses, etc. Lipids are used to build strong cell membranes which results in increased resistance to all airborne pathogens, parasites, diseases, and UV radiation.

Stage Four: Creation of Plant Secondary Metabolites (PSM): This stage is where phytoalexins, aromatic "essential oils", can only be produced if lipids were produced in stage three. These aromatic compounds (i.e. terpenes, bioflavonoids, and phenolics) are plant protectant compounds that contain pesticidal properties of their own.

The adoption of gardening practices that create a thriving soil can make your gardening experience easier and healthier in a number of ways. The practices that will be most helpful include amending the soil with organic matter; re-mineralizing the soil; using organic fertilizers; amending the soil with biochar; using biostimulants on both your plants and soil; eliminating soil disturbances; and keeping the soil covered.

Nature has a system that allows plants to be self-sufficient and to obtain maximum health without our help! When we work within this system we can reap the benefits with less effort and resources. Gardeners are willing to fertilize and to spray insecticides and fungicides ... so, why not simply swap gardening practices and sit back and enjoy! By providing the plants with all of the nutrients needed, and assisting the soil in building up organic matter, our plants will thrive and contain more nutrients.

Session D-4: Florida-Friendly Landscaping™ | Tuesday, October 20, 2015 | 10:00am-11:00am

Invasive Plants - What You Need to Know!

Deah Lieurance, UF/IFAS Assessment Coordinator

The significance of biological invasions has become an international concern, as the detrimental effects, including reduced biodiversity, ecosystem function, and alteration of fire regimes, are costly both ecologically and economically. These impacts are especially evident in the natural areas of Florida. Preventing high-risk species from being released into natural areas and managing invasive species early in the invasion process can reduce negative impacts. The IFAS Assessment of Non-Native Plants in Florida's Natural Areas (IFAS Assessment) was created by the University of Florida's Institute of Food and Agricultural Sciences (IFAS) to identify species most likely to invade and cause damage in Florida's natural areas. To date, approximately 850 species have been evaluated and can be accessed from our new user-friendly website.

In this talk, an overview of the biological traits associated with invasive species and their ties to horticulture, an overview of the UF/IFAS Assessment, and a primer on how to use the Assessment website will be presented. The synthesis of our efforts provides reliable information for UF faculty and staff, land managers, and the homeowner regarding the status of non-native species in Florida.

Please visit the UF/IFAS Assessment website at <http://assessment.ifas.ufl.edu>, like us on Facebook, and follow us on Twitter

Session A-5: Edibles | Tuesday, October 20, 2015 | 11:15am-12:15pm

Vegetable Gardening for the Public: Attracting Bees to Your Garden

Gabrielle Milch, Seminole County Urban Horticulture Agent & Master Gardener Program Coordinator

Many times when planting a Florida vegetable garden you have all the elements to be successful except one very important guest. If you believe that your success is measured by pounds of produce, inviting native pollinators to your garden is important. In this presentation the importance of vegetable pollination and how to attract native and European honey bees and other pollinators into your gardens will be discussed. There are two ways that plants pollinate - self and cross pollination. Cross pollination of plants can occur by wind or with the help of insects. It is important to remember that every third bite of our food is due to pollination.

You will be informed about the following:

- How to select plants for attracting pollinators;
- Hand Pollination;
- Integrated Pest Management;
- New and Innovative ways to think about the beneficial insects

There are about 4000 species of native bees in the U.S., and over 300 of them have been found in Florida. Is it possible to invite some of them into your garden? Come to the discussion if you want to learn a little bit more about the birds and the bees.

References:

E.Thralls and D.Treadwell 2014, Home Vegetable Garden Techniques: Hand Pollination of Squash and Corn in Small Gardens; EDIS Document HS1149

R.Westerfield 2014; Pollination of Vegetable Crops; UGA Extension(C 934)

http://www.plants.usda.gov/pollinators/Native_Pollinators.pdf

Session B-5: Hort & Garden | Tuesday, October 20, 2015 | 11:15am-12:15pm

Attracting Pollinators and Beneficial Insects to Your Yard and Keeping Them There

Catharine Mannion, PhD, UF/IFAS Professor & Extension Specialist, Tropical Research & Education Center

Jennifer L. Gillett-Kaufman, PhD, UF/IFAS Associate Extension Scientist, Tropical Research & Education Center

The importance of pollinators in the landscape has been evident for a very long time; however, encouraging, attracting and maintaining pollinators as well as identifying practices that have negative impact on their behavior and survival are lesser known. This area has been more recently highlighted due to the increase use of systemic insecticides and the potential impact on pollinators. As a result, numerous research and education programs have been initiated throughout the U.S. to better define who are the pollinators, are their populations changing, and are there steps that can be taken to conserve and protect them. For example, the University of Florida’s Honey Bee Research and Extension Lab has developed a citizen science project to learn more about the nesting preferences, diversity and distribution of native solitary bees and wasps. One of the difficulties is finding and gathering current and useful data and information that already exists or ongoing.

In this presentation, a review of the impact of insecticides on pollinators with particular emphasis on the systemic insecticides as well as some of the methods for attracting and maintaining pollinators in the landscape will be discussed. More specifically an update on use of neonicotinoid insecticides and their impact and the use of “bug dorms” will be presented.

Some of the questions that will be discussed include:

- Are these insecticides a problem in the landscape?
- Can pollinators be protected?
- Can you increase your pollinator population enough to have impact?
- Do “bug dorms” work?

Session C-5: Youth | Tuesday, October 20, 2015 | 11:15am-12:15pm

10 Ways to Use the Junior Master Gardener Program: Thinking Outside the Box

Lesley Fleming, Registered Horticultural Therapist, American Horticultural Therapy Association

Junior Master Gardener is an international youth gardening program delivered through the university cooperative Extension network. It is comprised of 7 programs:

Level 1 (elementary children): *Junior Master Gardener Handbook & Teacher/Leader Guide; Health & Nutrition Guide from the Garden; Wildlife Gardener; Literature in the Garden; Learn, Grow, Eat & GO!*

Level 2 (middle/junior high students): *Operation Thistle; Operation Water*

Introducing the newest JMG program: *Learn, Grow, Eat & GO!*
For more information, visit: www.jmgkids.us



Other ways to utilize JMG resources in addition to the intended target group of school-aged children in classroom and after-school settings include:

- special events garden-based learning therapeutic horticulture programming garden installations
- use of JMG chapter themes source for horticulture information used by many populations
- strengthen master gardener skills improve school culture strengthen collaborations

Combining creative hands-on activities with easy to understand horticulture information, JMG appeals to a wide range of groups and individuals, regardless of age or ability. Activities like bean teepees, soothing aloe jelly recipe, mini meadows, edible aquifer, patchwork plants, hydroponic fish vase, coat hanger topiary, bold molds, and mammal mastermind make learning, exploration, and gardening fun. Use of games, science fiction, eco-art, garden themed literature, and so much more!

For a more comprehensive handout on applications for JMG, contact: Lesleyfleminghtr@gmail.com



Session D-5: Florida-Friendly Landscaping™ | Tuesday, October 20, 2015 | 11:15am-12:15pm

Landscape Advisor Training: Navigating the FFL Recognition Checklist

Claire Lewis, Statewide Florida Yards & Neighborhoods Coordinator

Lynn Barber, Hillsborough County Extension Florida-Friendly Landscaping™ Agent

Jim Davis, Sumter County Extension Residential Horticulture & Master Gardener Coordinator

Christine Kelly-Begazo, Indian River County Extension Director

Attendees can expect an interactive session on how to perform a FFL landscape recognition. As Master Gardeners, the FFL Team relies on you to carry the principles of Florida-Friendly Landscaping™ to the public. Your role is critical to the success of the Landscape Recognition program. Attendees will learn how to conduct a Florida-Friendly Landscaping™ Home Landscape Recognition. We will discuss how to prepare for the visit, conduct the evaluation process, and follow-up with homeowners.

We'll wrap up with real-life amusing scenarios! These will be common issues that come up when conducting a landscape recognition and some examples on how to address them.

References and Resources:

FFL Home Landscape Recognition Checklist

http://ffl.ifas.ufl.edu/materials/FYN_Yard_Recognition_Checklist.pdf

The Florida-Friendly Landscaping™ Florida Yards & Neighborhoods Landscape Advisor's Manual

<http://ffl.ifas.ufl.edu/materials/Landscape-Advisors-Manual.pdf>

The Florida Yards & Neighborhoods Handbook

http://ffl.ifas.ufl.edu/materials/FYN_Handbook_2015_web.pdf





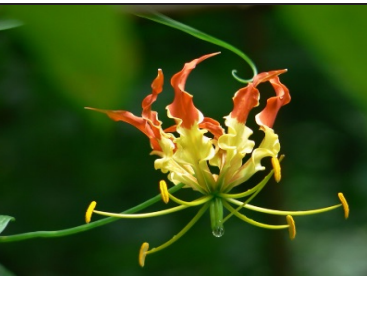
Session A-6: Hort & Garden | Tuesday, October 20, 2015 | 3:45pm-4:45pm

Favorite Funky Flowers and Great Plants You Should Grow

Lynn Barber, Hillsborough County Extension Florida-Friendly Landscaping™ Agent

Norma Samuel, Marion County Extension Urban Horticulture Agent

Sydney Park Brown, UF/IFAS Horticulturist and Associate Professor Emeritus

	<p><i>Costus</i> spp. Spiral Ginger</p>
	<p><i>Aristolochia</i> spp. Dutchman's pipe, Pipevine</p>
	<p><i>Hoya carnosa</i> Wax Plant, Wax Flower</p>
	<p>Bromeliads <i>Tillandsia</i>, <i>Achmea</i>, etc.</p>
	<p><i>Gloriosa superba</i> Gloriosa Lily</p>



Calliandra haematocephala
Powderpuff



Holmskioldia sanguinea
Chinese Hat Plant



Hibiscus sabdariffa
Roselle, Florida Cranberry, Jamaican Sorrel, Indian Sorrel



Alcea sp.
Vietnamese Hollyhock

Session B-6: Hort & Garden | Tuesday, October 20, 2015 | 3:45pm-4:45pm

Propagation by Air Layer

Suzanne Greene, Brevard County Master Gardener Volunteer

This presentation will provide attendees with the knowledge required to successfully build their own Air Layers.

Attendees will learn to set up the correct conditions to induce roots and provide the new developing roots with adequate moisture to grow out to prepare the branch to become a tree on its own.

The style of Air Layer presented is only one of many recognized methods. Regardless of the method or style of Air Layer applied, the concept remains the same.

Tools:

Long fibered sphagnum moss, slip joint pliers, scissor, soaking bucket, 12" aluminum foil, 12" plastic wrap, permanent marker, plastic spray bottle, rooting inducing liquid*, gloves, eye protection, garden calendar

Important Points:

Soak sphagnum 24 hours

Shiny side of aluminum foil faces inside of bandage

Plastic wrap layer is on the inside of aluminum foil

Use clean cutting tools

Girdle branch 360°

Wring sphagnum out until moist but not dripping

Root inducer is optional

Leave nothing trailing out of bandage or pinned in

Record your application date so approximate date of harvesting is known

Feel free to contact the presenter with any questions at: LycheeConnection@gmail.com

Suzanne Greene...a.k.a... The Lychee Lady[∞]

Session C-6: Awards | Tuesday, October 20, 2015 | 3:45pm-4:45pm

Award-Winning MG Project Updates

2013 Florida Master Gardener Awards of Excellence Winners

Beautification and Enhancement

Martin County

Presented by: Ann McCormick

Demonstration/Educational Garden

Orange County

Presented by: Ed Thralls

Extension Awareness

Santa Rosa County

Presented by: Mike Burba

Newsletter

Manatee County

Presented by: Carol Davis

Service to 4-H and Other Youth

Sumter County

Presented by: Ann Carraway

Special Audiences

Sumter County

Presented by: Howie Johnson

Session D-6: Florida-Friendly Landscaping™ | Tuesday, October 20, 2015 | 3:45pm-4:45pm

Mangrove Conservation Jeopardy: A Homeowner's Guide to Living with Mangroves

Thomas Becker, UF/IFAS Charlotte County Extension Horticulture/FFL Assistant

Objectives: (1) Use ppt./2010 to demonstrate a jeopardy template application for increasing class participation. (2) Why and how to protect and restore mangroves along Florida's coastline. (3) Understand the role & value of mangroves (forest & fringe) and natives bordering them.

Only 3% of the land area of our Florida's coastline is protected by mangroves, salt marshes & barrier islands. Yet 80% of Florida's human population lives along the same coastline. New residents often are not aware of the tremendous impact mangrove trees have to reducing coastal erosion, converting sunlight and nutrients to biomass, increasing biological diversity and protecting communities during major hurricanes. Homeowners can take a more active role in safeguarding the health of existing mangroves within Florida's estuaries. Protected plants include red, black and white mangroves. Other native trees, shrubs and vines buffer existing mangrove borders: sea-oxeye daisy, green buttonwoods, bay cedar, sand cordgrass, seashore ageratum, saltwort, mangrove spider lily and railroad vine.

Habitat Places: Mangrove forests form a unique ecosystem. Keystone species, all three types of mangrove benefit a multitude of bird & butterfly species. Wading & migrating birds breed, feed and rest in and on the edges of mangroves. Birds include herons, spoonbills, ibis and egrets. Mangroves that line the Everglades and Florida Bay are already changing wildlife habitat migrating landward in response to climate change, sea level rise and coastal saltwater intrusion. As a result, wildlife associated with fresh water systems lose their habitat places faster like key deer, Everglades snail kite & FL panther. Science Support for Climate Change Adaptation in South FL. <https://edis.ifas.ufl.edu/pdf/edw/edw33100.pdf>

Yard Borders: Yards bordering mangrove benefit greatly using native plants like FL bunchgrasses, muhly grass and seagrape. Unwanted invasive exotic plants need removed like Australian pine, Brazilian pepper, carrotwood and others. Homeowners should not dump unwanted grass clippings, weeds, brush or even houseplants into mangroves or their adjoining waterways. Hundreds of plant species are considered unsuitable for planting in a backyard. See UF/IFAS Assessment of Non-native Plants in Florida: <http://assessment.ifas.ufl.edu>

FFL (Florida-Friendly Landscaping™): From the fertilizer, pesticides or irrigation water you apply & how you maintain landscape plants or what replacement plants you select can impact nearby mangroves. What you do in your landscape matters. <http://fyn.ifas.ufl.edu/homeowners/publications.htm>

Protect the Shoreline: What does a homeowner need to know before trimming mangrove? Mangroves are critical habitat even in urban areas. Creating a reasonably beautiful view to water is possible without severely injuring or killing mangroves. After mangroves are destroyed, there are ways to restore mangroves along canals and shorelines. One tool for restoring mangroves is planting mangroves on riprap rock just beyond the seawall.

http://ci.punta-gorda.fl.us/depts/growthmgmt/documents/MangroveHomeownerGuidelines_revjfl.pdf

Benefits & Solutions: Mangrove and Florida-Friendly Landscaping™ is quality landscaping along brackish water conserving water and protecting the environment, is adaptable to local conditions, and is drought tolerant. Both provide ecological benefits. Mangrove trees have roots that bind sediments, filter estuarine waters containing nitrogen and phosphorus and remove inorganic pollutants from the water column. Decayed matter and leaf detritus falls into the water below feeds and shelters a plethora of invertebrate: fish, shellfish, shrimp, blue crab and snook while providing places for oysters to grow.

General Session 4 | Tuesday, October 20, 2015 | 5:00pm-5:45pm

Mothball Tales: The Good, the Bad, and the Smelly

Rebecca Baldwin, UF/IFAS Entomologist and UF Entomology Education & Outreach Program Director

Paul Mitola, Florida Department of Agriculture and Consumer Services

Are you guilty of an improper pesticide use?

Have you ever heard of using mothballs to repel wildlife such as snakes and skunks or using mothballs in trashcans or attics? Have you ever used them for that purpose or recommended them to others? Many do not realize that mothballs are pesticides and many are using them, like in the examples above, in violation of the label. The improper use of mothballs can pose hazards to humans, animals and the environment. In fact, outdoor uses of mothballs is a violation of the pesticide label and could result in a hefty fine. The Florida Department of Agriculture and Consumer Services has embarked on a public service campaign to inform the public on the intended use of mothballs, the health effects of mothball use, and tips on using mothballs safely.

Master Gardeners are in a position to answer questions from the public about pests in and around the home. Knowing how to use mothballs safely, especially around children, is important in reducing pesticide exposure. Join us for *Mothball Tales: The Good, the Bad, and the Smelly*.

Learning Objectives:

1. Discuss the Proper use of mothballs
2. Determine how to read a pesticide label and follow the labeling
3. Determine the recommended uses of mothballs
4. Explore uses of mothballs prohibited by the label
5. Investigate some misuses that have been reported to the Florida Department of Agriculture and Consumer Services

General Session 5 | Wednesday, October 21, 2015 | 8:30am-9:30am

Poinsettias - Answering Questions about This Popular Holiday Plant

Jim Barrett, UF/IFAS Horticulturist and Professor Emeritus, Environmental Horticulture Department

Poinsettias (*Euphorbia pulcherrima*) are one of our favorite holiday plants. They naturally flower in the fall; however, the close association with Christmas occurred in the 1960's and 70's because of an effective marketing campaign by the Paul Ecke Company of San Diego. Poinsettias are native to the mountains of southern Mexico and northern portion of Central America. They were used for winter decorations in the villages. Joel Poinsett, the first Ambassador to Mexico, brought poinsettias to the U.S. in 1828.

The red "flowers" on poinsettias are actually modified leaves called bracts. The true flowers are the small yellow, red, and green structures in the center and are called cyathia. The white liquid that exudes from cut leaves and stems is latex and is very similar to latex in many other plants, such as figs. Poinsettias are often incorrectly listed as a poisonous plant for children and pets. There have been several scientific animal feeding studies that prove poinsettias are not poisonous. The Poison Control Center does not have records of documented occurrences of poisoning of children.

Like our fall flowering weeds, Poinsettias grow as vegetative plants through the summer and start flowering in response to the longer nights of fall. The confusing term for this type of plant is "short day" because they flower during the short days of fall.

Purchase nice, fresh looking plants. Indoors, they do better if in a spot with more light. Root rots are a problem with poinsettias, and they should not be kept wet. It is best to let the soil dry and then water well and repeat as needed. If light levels are too low or if plants are too dry the lower leaves will yellow and drop. They only need very light fertilization if being kept for a long time indoors. They can be fertilized when they start growing again.

Unlike the rest of the country, here in Florida gardeners may use poinsettias in the landscape. While they are tropical, they are not well adapted to our hot, wet conditions and can be difficult to become established. Poinsettias you see in landscapes around older homes may be tall and poorly branched. These are older varieties that are no longer commercially available. Newer varieties have been selected to be more compact with better branching. The best varieties for use in the landscape are early flowering types that are likely to be in garden centers from about Nov. 1 to 15. Two good varieties that grow well under Florida conditions are Orion and Advent. If the plant is to be used in the landscape, it is best to not keep it in the low light inside a home. Put it on a porch or patio where it will continue getting good light and the leaves will remain on the plant. In April or May cut the plant back and plant in the ground or a larger container. In the landscape, the plant will grow to be about two to three times as tall as it was when purchased. Plants can be pruned as desired with the last pruning in early September. The old Florida saying was to prune those tall and poorly branched plants on the holidays: Memorial Day, 4th of July and Labor Day. In the landscape, plants should not be near a security light or window.

Whiteflies are the most common insect problem. The best chemical control for gardeners is a systemic product containing imidacloprid or other neonicotinoid. Insecticidal oils and soaps will have some affect. Both root and foliage diseases are best controlled by preventing plants from being too wet.

Closing Keynote Presentation | Wednesday, October 21, 2015 | 11:15am-1:00pm

Our Water, Our Future

John Moran, Florida Nature Photographer and *Springs Eternal Project* Co-Director

Once a source of awe, our springs are now a source of deep concern. Although vital to the ecological and economic health of Florida, our springs are imperiled—due to pollution, neglect and the groundwater demands of a thirsty state. As the Everglades are to South Florida, our springs are central to Florida’s identity and wellbeing. They are Florida’s blue-water calling card to the nation and the world. Join us for an engaging look at these windows into the aquifer with photographer John Moran, who has been photographing Florida waters for more than 30 years. In 2012, he partnered with artist and art historian Dr. Lesley Gamble to create the *Springs Eternal Project*, after realizing that his beautiful nature pictures of Florida tell an incomplete story and that he has an obligation to more fully show and tell the truth as he sees it. Their collaboration fills museum walls, wraps city buses and continues to develop creative forms of educational outreach inspiring Floridians to value, conserve and restore our precious waters. Learn more at SpringsEternalProject.org.

John Moran is a nature photographer whose work is a deep meditation on water and Florida's future. Florida author and scholar Gary Mormino says, "If Florida had a Photographer Laureate, John Moran should hold that title."



Presenter Biographies

Listed alphabetically

Abid Al Agely

Dr. Abid Al Agely works in soil microbial ecology with an interest in microbial symbiotic association. He teaches soil microbial ecology during the fall semester and conducts mycorrhizal training courses during the summer semester in the University of Florida's Soil and water Science department. His research focus is phytoremediation for contaminated soils and symbiotic association for plant growth and development.

Rebecca Baldwin

Dr. Rebecca Baldwin is an assistant professor and the undergraduate coordinator for the University of Florida Entomology and Nematology Department. Rebecca shares her love of entomology and education by directing the UF Entomology Education and Outreach Program and by teaching general education and introductory entomology courses to undergraduates. Her research program focuses on IPM tools for crawling pests and she provides CEU and recertification training for pest managers.

Lynn Barber

Lynn Barber is a UF/IFAS Extension Agent in Hillsborough County and has been responsible for educating residents on the nine principles of the Florida-Friendly Landscaping™ program since 2008. She became a Master Gardener in 2002 and has donated several thousand hours teaching others about creating a more sustainable Florida. Lynn has received numerous awards for programming, publications, and television and radio segments.

Shirley Barber

Shirley Barber has been a Master Gardener with St. Johns County for 10 years. She is a lifelong gardener with a focus on community service. Shirley has installed thousands of plants in public gardens in Georgia, Texas, North Carolina, and Florida. She designs several gardens at the St. Johns Ag Center, installing plants grown from seed and cuttings. She is the project leader and propagator for the AAS Demonstration Garden. Shirley is presenting her favorite topic: Beautiful Gardens Begin with the Seed.

Jim Barrett

Dr. Jim Barrett has a Bachelor's degree in Agricultural Science from Auburn University, a Master's degree in Vegetable Crops from Auburn, and a Ph.D. in Horticultural Science from Michigan State University. He joined the University of Florida in 1978. His teaching and research responsibilities have revolved around the challenges of producing commercial crops in Florida's unique environment. An important component of this work has been evaluating and selecting improved varieties for use in Florida. The University of Florida has developed one of the world's leading poinsettia research and evaluation programs.

Tom Becker

Tom Becker has a Bachelor's degree in Agronomy and a Master's degree in Training & Development, both from Penn State University. He currently works for UF/IFAS Charlotte County Extension as a Florida Yards & Neighborhoods Horticulture Assistant. His focus is outreach education directed to homeowner and Community Associations who are re-landscaping and retro-fitting community-owned areas to save water & improve water quality.

Mary Jane Cary

One of Missouri's oldest farms inspired Mary Jane Cary's discovery of our natural world. Grandpa Ike showed her how to work with the environment to sustain land and life, for its plants, animals and humans. Her trail of sustainable landscapes across three climate zones acknowledges this wisdom. And now, as a Collier County Master Gardener and Florida-Friendly Lead Community Advisor, Mary Jane is delighted to share Florida landscapes that are Teaming with Nature!

Roxanne Connelly

Dr. Roxanne Connelly is an Extension specialist and Professor of Medical Entomology at the University of Florida in the Florida Medical Entomology Laboratory. She holds a Ph.D. from Louisiana State University. She began with UF/IFAS in 1999 working on mosquito biology and control. Her responsibilities include maintaining close contact with over 50 mosquito control districts in Florida and providing training and information on biting and blood-feeding insects to all Florida county extension offices.

Mallory Lykes Dimmitt

Mallory Lykes Dimmitt is a seventh generation Floridian whose childhood was partly spent exploring the lands and waters of central Florida. She pursued her passion for the outdoors by receiving her B.S. in Natural Resources from the University of the South in Sewanee, Tennessee. She was also awarded a Doris Duke Conservation Fellowship at Duke University's Nicholas School of Environment where she earned a Master's of Environmental Management.

Lesley Fleming

Lesley is a registered horticultural therapist and 14-year Master Gardener volunteer. Recipient of several national awards for her work in horticultural therapy, she has been recognized for her writing on issues within the profession and has been published twice in the Journal of Therapeutic Horticulture on HT at botanical gardens and in 2015 on nature-based programming for veterans transitioning into farming. Lesley has presented at 3 previous Master Gardener Conferences, including 2010's general session.

Dale Galiano

Since 1997, Dale has volunteered over 5300 hours as a St. Lucie County Master Gardener and has participated in all of the community projects and educational programs available – from County Fairs, to Farmer's Market, to Speakers Bureaus, to Homeowner Retrofits and Recognitions. As an artist, Dale enjoys creating interest and surprises in the garden. To her, being able to give personality to a garden by repurposing recycled items and thinking outside the box is the best.

Bill Giuliano

Bill Giuliano holds a Ph.D. from Texas Tech University. He has more than 20 years of experience in teaching, research, and extension in wildlife management. His research interests include integrating wildlife management with other land uses, human dimensions of wildlife conservation, and developing wildlife education programs that better serve students and the public.

Suzanne Greene

Suzanne Greene is a 15-year member of the Brevard Rare Fruit Council and Master Gardener Program. She developed her passion for growing in Hawaii while exploring the gullies with her father. She studies growing tropicals using organic practices and researches their propagation methods, medicinal values, and overall health benefits. Suzanne shares the practice of Air Layering with all ages, elementary school children, garden clubs, Master Gardener events, nurseries and groups on private property!

Gail Hansen

Dr. Gail Hansen is an associate professor in the Environmental Horticulture Department at the University of Florida. She is also a member in the Center for Landscape Conservation and Ecology, a faculty advisor for the Florida-Friendly Landscaping™ Program, and the Extension Specialist in Landscape Design. Dr. Hansen has both a Master's and PhD in landscape architecture.

Carrie Harmon

Carrie Harmon directs the UF/IFAS Plant Diagnostic Center, which serves as the hub lab for the Southern Plant Diagnostic Network, providing training and leadership in plant pathogen detection and disease diagnosis and management. Her contribution to the IFAS Extension system and to diagnostic laboratories in the U.S. and abroad has been the delivery of concise, practical, and hands-on training in plant health diagnostic concepts and methods, and the management of plant diseases.

Mark Hoyer

Mark is currently the Director of Florida LAKEWATCH at the University of Florida. He received a Bachelor of Science in Fisheries and Wildlife Biology from Iowa State University and his Master of Science in Limnology from the University of Missouri, Columbia. Mark has been with the University of Florida for 33 years, participating in many research projects on streams, lakes, and estuaries throughout the state of Florida focusing on eutrophication.

Steve Johnson

Dr. Steve Johnson is an Associate Professor and Extension Specialist in the Department of Wildlife Ecology and Conservation at the University of Florida in Gainesville. His formal appointment is 70% Teaching and 30% Extension. His area of expertise is amphibian and reptile ecology and conservation. His extension program emphasizes management of introduced and invasive vertebrates.

Christine Kelly-Begazo

Ms. Kelly is the CED, Master Gardener coordinator, and agriculture agent for Indian River County. She has worked for UF/IFAS for over 20 years, and she was the first statewide Florida Yards & Neighborhoods coordinator for 6 years before transferring to Indian River County. Her main expertise is in sustainable agriculture and she also participates in regional working groups for the Green Industry.

Gary Knox

Dr. Knox's research interests focus on evaluating species and cultivars of woody plants for their invasive potential as well as for ornamental characteristics. In addition to research plantings, Dr. Knox is working with a nonprofit volunteer group to develop Gardens of the Big Bend, a series of botanical, teaching, and evaluation gardens at the North Florida Research & Education Center, including the Magnolia Garden, recently inducted as part of the National Collection of Magnolia.

Claire Lewis

Claire Lewis holds a Master's Degree in Landscape Architecture from the University of Florida and serves as the Florida-Friendly Landscaping™ Statewide Florida Yards & Neighborhoods Coordinator. Ms. Lewis functions as liaison with County agents around the state to promote adoption of environmentally sound landscape practices at new and existing communities. Prior to joining the FFL team, she worked 12 years for private landscape architecture firms in Gainesville. Design projects included large scale commercial, institutional, and residential home sites.

Deah Lieurance

Deah Lieurance is the coordinator of the UF/IFAS Assessment in Gainesville where she uses various methods to determine the invasive potential of non-native species in the state of Florida. She received her doctorate in environmental studies from Wright State University in December 2012 where she investigated plant herbivore interactions of non-native bush honeysuckles. Previously, Deah worked in Ft. Lauderdale at the USDA Invasive Plant Research Laboratory on biocontrols for Melaleuca and Brazilian pepper tree.

Catharine Mannion

Catharine Mannion is a Professor and Extension Specialist with the University of Florida, Tropical Research and Education Center. She has been with the University of Florida for 15 years. She is responsible for developing a research and extension program on integrated pest management of ornamental plants with an emphasis on invasive pests. Her research has focused on the biology and management of several introduced pests such as whiteflies, scales, thrips, and weevils.

Gabrielle Milch

Gabrielle Milch is currently the Urban Horticulture Agent and Master Gardener Volunteer Coordinator for UF/IFAS Extension at Seminole County. Prior to being in this position she was the Florida-Friendly Landscaping™ Program Agent. She is an Environmental Studies graduate of Rollins College in Winter Park, FL. She has over 20 years of experience working with water resource protection and horticulture. She has three grown children and loves to garden and kayak.

Paul Mitola

Paul Mitola began working for the Florida Department of Agriculture & Consumer Services (FDACS) after 22 years in the pest control industry, six of which were with the University of Florida. He was an inspector for six years, then became the training coordinator, and is now an Environmental Consultant. He provides training for FDACS inspectors, collects field data for consumer issues, and provides continuing education for the pest management industry in Florida.

John Moran

John Moran is a nature photographer whose work is a deep meditation on water and Florida's future. Florida author and scholar Gary Mormino says, "If Florida had a Photographer Laureate, John Moran should hold that title." John travels the Sunshine State with his cameras, seeking his vision of natural Florida as it may have appeared to Ponce de Leon and other early strangers in paradise. A graduate of the University of Florida, John's photography has appeared in numerous books and magazines including National Geographic, Life, Time, Newsweek, Smithsonian, The New York Times Magazine and on the cover of the National Audubon Society Field Guide to Florida. On photographing the nature of Florida, Moran says, "Truly a universal language, photography can help us better understand and appreciate the many gifts of nature bestowed upon this great state we call home."

Rao Mylavarapu

Rao Mylavarapu is a professor of Soil & Nutrient Management in the Department of Soil & Water Science at the University of Florida, as well as the director of IFAS Analytical Services Labs in Gainesville. He has nearly 30 years of teaching, research, and extension experience in soil, nutrients, crop nutrient, and water requirements, diagnostic testing, and water quality, including \$16 million in collaborative grant activity and 150 extension publications. Rao is the president of the Soil & Plant Analysis Council of North America and Chair-Elect of the Nutrient Management Division of the Soil Science Society of America.

Holly Ober

Dr. Ober is an Associate Professor and Extension Specialist in the Department of Wildlife Ecology and Conservation at the University of Florida. She is stationed at the North FL Research and Education Center in Quincy. Her research and extension programs encompass a wide variety of topics including the influence of forest management activities on wildlife, restoration of forest biodiversity and ecosystem functions, management of threatened and endangered species, and development of tactics to moderate wildlife damage issues.

Sydney Park Brown

Sydney Park Brown recently retired from UF/IFAS after 39 years in Extension and Teaching. She was a horticulture program assistant in Volusia County and the Urban Hort/MG Coordinator for Hillsborough County before taking a teaching/extension appointment at the UF Plant City campus. Today she is happily retired and enjoying gardening at a fever-pitch!

Norma Samuel

Dr. Samuel holds both a BS and MS degree in Plant Protection and Pest Management from the University of Georgia and a Ph.D. in Agricultural Education and Communication from the University of Florida. She serves as Master Gardener Coordinator in Marion County. Her areas of specialty are pest management, volunteer development, risk management, and international extension.

Sally Scalera

Sally Scalera graduated from Iowa State University with a Bachelor of Science degree in Horticulture. With degree in hand she left Iowa to work for a mouse! Since graduating, Sally has worked at Walt Disney World's EPCOT Center in landscaping, the Land Pavilion at EPCOT, City of Winter Park, and the Tree Farm & Nursery at Disney. In 1993 she joined the UF/IFAS Extension in Brevard County where she is the Urban Horticulture Agent and Master Gardener Coordinator.

Joe Swards

Joe Swards holds a Bachelor's degree in Horticulture from the Ohio State University and a Master's degree in Environmental Science from the University of Florida. He has worked in Extension for more than 10 years. He is a member of the Florida Association of Natural Resource Extension Professionals and an affiliate faculty member at the UF/IFAS Center for Landscape Conservation and Ecology.

Jason A. Smith

Jason is Co-Director of the Emerging Threats to Forests Research Team, Associate Professor of Forest Pathology, and State Forest Health Extension Specialist at the University of Florida. He specializes in biology, diagnosis, and management of fungal diseases with emphasis on new tree health issues. His extension program focuses on technology transfer of novel tree diseases diagnostic methods, educating the public about emerging diseases, and providing training on diseases and decay in urban trees.

Laurie Trenholm

Laurie Trenholm received both her B.S. and M.S. degrees from the Environmental Horticulture Department at the University of Florida, majoring in Turfgrass Science. Her Ph.D. is from the University of Georgia's Crop and Soil Science Department in Turfgrass Physiology. She is currently a Professor of Environmental Horticulture based in Gainesville. Her appointment is 70% extension, 15% research and 15% teaching. She has been active in development of the Green Industries and Golf Course Best Management Practices.

Presenter Index

Abid Al Agely	21, 52
Lynn Barber	41, 42, 52
Shirley Barber	20, 52
Jim Barrett	48, 52
Tom Becker	46, 53
Mary Jane Cary	23, 53
Roxanne Connelly	31, 53
Mallory Lykes Dimmitt	18, 53
Lesley Fleming	40, 53
Dale Galiano	28, 53
Bill Giuliano	27, 54
Suzanne Greene	44, 54
Gail Hansen	30, 54
Carrie Harmon	29, 54
Mark Hoyer	35, 54
Steve Johnson	19, 27, 54
Christine Kelly-Begazo	24, 34, 41, 55
Gary Knox	32, 55
Claire Lewis	22, 41, 55
Deah Lieurance	37, 55
Catharine Mannion	39, 55
Gabrielle Milch	38, 55
Paul Mitola	47, 56
John Moran	49, 56
Rao Mylavarapu	25, 56
Holly Ober	27, 56
Norma Samuel	42, 57
Sally Scalera	36, 57
Joe Sowards	22, 57
Jason A. Smith	32, 57
Laurie Trenholm	26, 57

Map of Florida Counties

