Astronomers indicate summer ends on 22 September in the northern hemisphere and autumn begins later this week on 23 September. However, you’d be hard pressed to agree that summer is over in the Florida Panhandle given the scorching hot weather we’ve experienced of late. Heat indexes have been over 100°F and afternoon thunderstorms have been common. The upside is the heat helps with drying and harvest of our row crops. We’ve been fortunate that a major hurricane hasn’t impacted our area, and I wish farm producers and everyone else in the Carolinas my very best as they recover from Hurricane Florence.

Since our last newsletter we had a couple of successful events including our extension farm field day, and our fall student orientation and back-to-school cookout. At the student event, held on the Milton campus, we welcomed about a dozen new students and got to know them at the cookout. It’s exciting to induct eager, hopeful students into our growing teaching program. The field day was one of the best attended events we’ve had in a long while, and it offered excellent practical information for area growers. I met with our advisory board in the afternoon after the field day, had useful discussions with them, and filled them in on our imminent on-site Center review. As always, our great faculty and staff make these events possible and successful, and I appreciate their hard work.

The aforementioned review was conducted by UF-IFAS Senior VP Jack Payne and the IFAS Deans Elaine Turner (teaching), Jackie Burns (research) and Nick Place (extension) on 6 September. The reviewers met with myself, WFREC stakeholders and WFREC faculty. The review went very well, and it was great to relay the significant progress our Center has made in recent years as well the needs we have to successfully advance into the future. I thank all who worked hard to make the review a success. Moreover, I thank our stakeholders who attended and participated in their session with the reviewers. I was told that stakeholder attendance/participation at the WFREC review was higher than previous reviews at other RECs. It’s evident that we have a strong and viable Center with good stakeholder support.

Our main event this fall is the two-day Farm to City harvest and distribution the Monday and Tuesday of Thanksgiving week. It’s a premier event for the WFREC and I look forward to having high school students at the Jay Research Facility to expose them to agriculture while getting their help in harvesting and packaging farm products (cabbage, collards, grits, cornmeal and sweet potatoes) for distribution the following day.

Continued on Page 2
From the Center Director—continued from page 1

It’s also a pleasure for us to distribute – in conjunction with the Feeding the Gulf Coast (FGC) - these products and those provided by the FGC (hams, turkeys, canned goods and bakery items) to 800 needy families in Santa Rosa and Escambia Counties.

Outside of the Farm to City event, we will continue to do excellent research, teaching and extension work this fall and into the future. I wish all our students good luck in their degree pursuits, and hope our producers realize a large and profitable harvest.

Go Gators!

2018 Fall Semester Scholarships Awarded

Six of our University of Florida WFREC Milton students were awarded scholarships for the 2018/2019 Fall Semester.

Friends of the Gardens of NW Florida Scholarship
Undergraduates: Edward Stamborski
               Aaron Black

Graduate Student: Cortney Stotts

The Erin M Tinney Scholarship
Undergraduates: Barbara Cory
               Teri Vandenberg

The R. K. Schoellhorn Scholarship
Undergraduate: Blakely Williams
The University of Florida - West Florida Research and Education Center, Feeding the Gulf Coast, Waterfront Rescue Mission and the Guy Thompson Community Center will join forces to celebrate National Farm to City Week November 16-22, 2018. Farm to City Week is a time to recognize and celebrate the importance of relationships between farmers, consumers, community leaders and everyone in between who contributes to our safe, abundant food supply. We know that you support agriculture and we are asking for your support of our local efforts to promote agriculture during the Farm to City Week.

To promote agriculture and increase awareness about the importance of agriculture to consumers and the general public, we will distribute food (some locally grown) to 400 pre-qualified families in need in Santa Rosa County and 400 pre-qualified families in need in Escambia County. This food will provide these families with a healthy meal this Thanksgiving holiday.

We would like you to consider supporting this much needed community outreach project that will greatly benefit over 3,200 individuals in Santa Rosa and Escambia County. Please make check payable to the University of Florida and mail to 5988 Hwy 90, Bldg. 4900, Milton, FL 32583 or pay by credit card by calling 850-983-7134. If you have any question or need additional information, please feel free to contact Robin Vickers at rvickers@ufl.edu.

Check out our Farm to City Promotional Video

Farm to City Video
New Grants & Publications

Dr. Debbie Miller
Professor, Wildlife Ecology & Conservation

Grants:
$19,750. Recovering the Southeastern Beach Mouse. US Fish & Wildlife PI Debbie Miller. Co-PI Mack Thetford

Dr. Mike Mulvaney
Assistant Professor, Agronomy

Peer-reviewed publications:

Grants:

Newsletters:

Service:
- American Society of Agronomy, Budget and Finance Committee
New Grants & Publications

Dr. Silvana Paula-Moraes
Assistant Professor, Crop Pest Management

Peer-reviewed Publications:
- Reisig, D., Huseth, A.S., Bacheler, J.S., Moham-
  mad-Amir, A.A., Braswell, L., Burrack, H.J., Flan-
  ders, K., Greene, J.K., Hebert, D.A., Jacobson,
  A., Paula-Moraes, S.V., Roberts, P., Taylor, S.V. 
  2018. Long-term empirical and observational evi-
  dence of practical Helicoverpa zea resistance to
  cotton with pyramided Bt toxins. J. Econ. Ento-

Abstracts:
- Baldwin, J., Silvana Paula-Moraes, Ledbetter-
  Kish, L., Mulvaney, M., Meagher. R.L., Siegfried,
  B. Occurrence and biology of insects associated
  with Brassica carinata in southeastern U.S. SPARC
  Annual Meeting-Year 1. Quincy, FL. June 25-26,
  2018.
- Huang, F., Kaur, G., Brown, S., Guo, J., Head, G.P., Price, P.A., Paula-Moraes, S.,
  Ni, X., 2018. Documentation of field resistance to Cry1A.105/Cry2Ab2 corn in
  corn earworm populations in Louisiana. Entomology Society of America 66th, Van-
  couver, BC, Canada-submitted.

Grants:
- $500,000 NIFA BRAG 2018: Biotechnology risk assessment research grants pro-
  gram. Impact of refuge management tactics on Helicoverpa zea population dynamics
  and resistance risk implications for Bt crops. 2018-2021
- $4,861 UF/IFAS 2020 College of Agriculture and Life Sciences - Office of the
  Dean. 2018 CALS Distance Education Mini Grant. April to December 2018
- $24,000 Florida Peanut Check Off Money. Survey of caterpillars in peanut field and
  current baseline susceptibility to the pyrethroid bifenthrin. February 2018 to June
  2018
  Improvement of the chemical control of the soybean looper using the direct spray
  in peanut. 2018 –2019
- $5,000 Southeastern Peanut Research Initiative—National Peanut Board— 2018. 
  Validation of a rapid screening technique of the peanut breeding lines for resistance
  to Lepidoptera. 2018 –2019
- $16,541 Cotton Incorporated. Collaborative efforts to manage insect pests of cotton
Dr. Silvana Paula-Moraes co-organized and presented in the round table discussion Beyond genetics and lethal toxicity: ecology, behavior, and life history in evolution of insect resistance to transgenic Bt plants at the Brazilian Entomological Meeting in September. She also presented the talk: Isotopic carbon as a way to describe movement of *Helicoverpera armigera* in the savanna landscape.

Three University of Florida/IFAS students representing WFREC attended the Ecological Society of America Conference in New Orleans, LA. The conference was held from August 5th-10th. Each student presented a poster on research they conducted. Ashlynn was a presenting author while Daniel and Maria Paula were lead authors.

**Daniel Brethauer**
*Title of poster:* Determining fire tolerance factors for slash pine (*Pinus elliottii*) seedlings and saplings in hydric flatwoods of the Southeastern Coastal Plain, U.S.A.
*Authors:* Daniel Brethauer, Justin McKeithen, Ajay Sharma

**Maria Paula Mugnani:**
*Title of Poster:* Association of plant taxonomic groups with age of longleaf pine regeneration clusters in old-growth pine savanna
*Authors:* Maria Paula Mugnani, Kevin Robertson, Deborah Miller

**Ashlynn N. Smith**
*Title of Poster:* Regional and landscape-scale habitat selection of *Hesperapsis oraria*
*Authors:* Hannah Hunsburger Davis, Debbie Miller, Mack Thetford, Ashlynn N. Smith
Welcome New Students
Fall 2018

Natural Resource Conservation

IN THIS ISSUE
From the Director  1
2018 Fall Scholarships  2
Farm To City  3
Grants & Publications  4
Brazilian Entomology  6
Student Happenings
New Students  7
Back to School  8
Cookout
Native Beach Plant  9
Research
Extension Farm  11
Field Day
Deer Lake State Park  12
Calendar of Events  13
And Holidays

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Jay Research Facility

For information on our Teaching Programs
contact Mark Long, Admissions Officer at
850-983-7138 or marklong@ufl.edu
As a way to say welcome to our new and returning students, the Back to School Cookout was held at the University of Florida, Milton on August 22nd. Greg Kimmons and Chad Stewart took time out of their farm work to come to Milton to grill hamburgers and hot dogs for the students, faculty and staff. We are pleased to have all of our students with us and wish everyone the best of luck this year.
Florida Panhandle Native Beach Plant Research

As part of the ongoing ecological restoration research program directed by Dr. Debbie Miller and Dr. Mack Thetford, a team of undergraduate (Anna Dicks, Barbara Cory, Blakely Williams, and Teri VanDenberg) and graduate researchers (Gabriel Campbell and Ashlynn Smith) have been busy implementing experiments and collecting data on the propagation, production, and restoration of Florida panhandle native beach plant species important for wildlife and pollinators. Notable species include the larval host for the Monarch butterfly (Sandhill milkweed - *Asclepias humistrata*), plants unique to the FL panhandle (*Crocanthemim arenicola* – coastsands frostweed and *Paronychia ereta* – square-flower) and endangered plants (*Chrysopsis* sp. – goldenasters), among others. Experiments vary, ranging from germination experiments in growth chambers to greenhouse container production experiments to restoration experiments in the field.

One notable experiment, pictured right, was conducted at the Bon Secour National Wildlife Refuge in Alabama. In this experiment, student researchers planted greenhouse grown sandhill milkweed plants using a handful of restoration techniques. Data gathered from this experiment will be used to develop sandhill milkweed restoration protocols for land managers, restoration professionals, and coastal homeowners.

Sandhill milkweed (*Asclepias humistrata*) planted on the beach at Bon Secour National Wildlife Refuge in Alabama. This plant is important for migrating Monarch butterflies, whose larvae rely on it for food during their migration. Student researchers have also documented existing sandhill milkweed plants at 5 coastal locations across the Florida panhandle. GPS points of all individuals and other data (elevation, co-occurring plant species, distance to water, etc.) have been gathered for each plant. Using this information, researchers will be able to recommend potential restorations sites appropriate for the use of sandhill milkweed.

Mark your calendars for next year’s Spring Festival of Flowers dates... April 5, 6 & 7, 2019. Vendors that would like to participate, please contact Robin Vickers at 850-983-7134 or rvickers@ufl.edu.
Gabriel is a PhD student studying Environmental Horticulture under his co-advisors, Dr. Mack Thetford and Dr. Debbie Miller. He is coordinating the beach dune plant research mentioned above, and the work with sandhill milkweed will be the subject of his doctoral work. He also is involved with the classes in Milton by serving as a Teaching Assistant to Dr. Mack Thetford.

PEER-REVIEWED PUBLICATIONS
Campbell-Martínez, Thetford, Miller, Pérez. Under Review. Seedling emergence of *Lupinus diffusus* in response to abrasion in an electric seed scarifier. *Native Plants Journal.*

NON-REFEREED PUBLICATIONS
Miller, Thetford, Smith, and Campbell. 2018. Southeastern Beach Mouse Habitat Enhancement Planning at Pelican Island Refuge. Final Report to the USFWS.
Thetford, Miller, and Campbell. 2018. Restoration of under-represented native plants in coastal dunes of Baldwin County, Alabama (*Physalis* and *Asclepias* production and out planting). Report to the USFWS, Cooperative agreement F16AC00430

SCHOLARSHIPS
2018 UF College of Agricultural and Life Sciences (CALS) Scholarship
2018 Florida Native Plant Society, Longleaf Chapter Scholarship
2018 Florida Sea Grant Elise B Newell Scholarship

POSTER PRESENTATIONS
2018 Seed germination of *Crocanthemum arenicola* (coastalsand frostweed) at the International Plant Propagators Society in Chattanooga, TN
2018 Recidivism of horticulture program graduates at the International Plant Propagators Society in Chattanooga, TN

GUEST SPEAKING
2018 Determining population status and outplanting methods for *Asclepias humistrata* and *Physalis angustifolia* at Bon Secour NWR. Guest Speaker at the Florida Native Plant Society: Longleaf Pine Chapter meeting
2018 Greenhouses for native plant production. Guest lecture for Greenhouse and Nursery Crop Culture (ORH4264/ORH4264L)
2018 The use of plant keys and field guides to identify plants. Dendrology of Forest plants (FNR 3131C)
The UF/IFAS Extension and West Florida Research and Education Center hosted the 2018 Extension Farm Field Day on August 10th. This field day is to assist local growers in their understanding of the benefits and challenges of modifying agricultural practices to make row crop production more efficient and diverse.

Some of the topics discussed this year included pest management in row crops; cotton and soybean varieties; effects of peanut plant density on yield and maturity; impacts of crop management decisions on cotton diseases; and managing peanut diseases.

As always, we want to give our heartfelt thanks to our sponsors. Without the support of our sponsors, we would not be able to serve our local growers.

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Florida Peanut Producers

THANK YOU!
Restoration Efforts at Deer Lake State Park in Panama City, Florida

Dr. Matthew Deitch, Dr. Deborah Miller, and Ashlynn Smith, a PhD student, have partnered with the Atlanta Botanical Garden and received funding ($440,000 total / $220,000 UF’s portion – 3 year duration) from the EPA’s RESTORE Gulf of Mexico Conservation Enhancement Grants Program to conduct research related to ongoing restoration efforts at Deer Lake State Park in Panama City, Florida.

History of Shrub Encroachment into Herbaceous Wetlands

Fire suppression has fundamentally altered the ecosystem structure of Florida’s coastal wetlands. Throughout the region, plant community composition in fire-suppressed wet prairies has changed from sparsely scattered pines and an herbaceous ground layer, including numerous rare insectivorous plants, to dense impassable forest stands dominated by evergreen shrubs (primarily *Cliftonia monophylla*, regionally called titi). This vegetation conversion is believed to cause a shift in understory plant composition, surface and subsurface hydrology, water quality, and amphibian habitat in these ecosystems. Though assumed valid, many of these theories about impacts of wetland alteration by shrub encroachment have not been tested.

Research Goals

This project has two main objectives. First, the project will test whether restoration through shrub removal in coastal wetlands leads to differences in hydrologic and nutrient parameters in soil, shallow groundwater, and stream water flowing into coastal dune lakes. The second objective is to evaluate whether there are differences among conventional and novel restoration treatments in terms of surface water level and chemistry, groundwater level and chemistry, soil chemistry, ground layer vegetation, and amphibian abundance/diversity. The results of this project will provide information that will benefit the long-term restoration of a much larger area encompassing more than 1,000 hectares of wetlands in Florida’s Panhandle.

Implementation

This summer we started the project with finalizing the experimental design and installing 120 groundwater monitoring wells. Help installing wells came from Traci Goodhart, Teri Vandenberg, Blakely Williams, Kelsea Heider, Savannah Cain, and Maggie Rivas (not in the group photo). This fall we will be collecting baseline vegetation, soil, groundwater level, groundwater nutrient data before applying restoration treatments.
2018 Upcoming Events

Jim Allen Elementary School Field Trip          October 3
Santa Rosa Leadership Agribusiness Day        October 18
Santa Rosa County Farm Tour                   October 23
Bagdad Elementary School Field Trip           October 26
Farm to City Initiative                       November 19 & 20
Spring Festival of Flowers                     April 5, 6 & 7, 2019

UF/WFREC Holidays &
Academic Program Calendar

UF Homecoming (Closed) - November 2nd
Veteran’s Day (Closed)—November 12th
Thanksgiving (Closed) - November 22nd & 23rd
Classes End—December 5th
Final Exams—December 8-14th
Christmas Day (Closed) - December 25th
UF Closed December 26th through December 31st