

# SFA GARDENS ANNUAL REPORT

JAN – DEC 2023



**SFA Gardens**  
**2900 Raguet Street**  
**Pineywoods Native Plant**  
**Center**  
**Nacogdoches, TX 75965**



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## SFA GARDENS AS A UNIVERSITY AND REGIONAL RESOURCE

SFA Gardens remains a recognized and valued Center within Stephen F. Austin State University (SFASU), Nacogdoches, Texas, USA. SFA Gardens is a multi-faceted public garden within the Department of Agriculture in the Arthur Temple College of Forestry and Agriculture (ATCOFA). SFA Gardens manages about 138 acres on the SFASU campus and has seven connected theme gardens in one cohesive unit:

- 1) Ten acres in the Mast Arboretum and Jim and Beth Kingham Children's Garden
- 2) Ten acres in the Ruby M. Mize Azalea Garden
- 3) Eight acres in the Gayla Mize Garden
- 4) Sixty acres SFA Recreational Trails and Gardens adjacent to the Gayla Mize Garden and managed with Grounds and ATCOA support.
- 5) Forty acres in the Pineywoods Native Plant Center
- 6) Two acres in the Jimmy Hinds Park.
- 6) Four acres, LaNana creek trail corridor, which is home to the LaNana creek trail and the garden's collection of *Taxodium* (bald cypress) germplasm. Runs from Starr Avenue bridge north to the PNPC.
- 7) Four acres, fruit research plots, located on the LaNana creek trail, east side of the Intramural field (Wilson/Starr)

The SFA Gardens is led by a Board of Advisors, an umbrella organization to support research and outreach projects in the gardens, city and the Gulf South. In addition, SFA Gardens is responsible for regional outreach and research projects including several externally funded studies, including:

- 1) Since 2016, a Moody Gardens, Galveston Island, grant has enjoyed a mission to find, plant and evaluate "climate resilient trees, shrubs, palms and other ornamentals for a 21<sup>st</sup> century Galveston". The project has graduated five MSc students and involved numerous undergraduates. Described later in this annual report.
- 2) Golden Kiwifruit, *Actinidia chinensis*, studies at SFASU. TAMU and with farmer-cooperators continue. SFA Gardens is first-in-the-state to actually produce green or golden kiwifruit in Texas. This interesting project has enjoyed external support since 2016, first by three sequential TDA/USDA grants that lasted five years, and now by recent support of the KiwiKo brand of TopFruit in South Africa and a large grower in New Zealand (Ross Stevenson). With seven crops out of ten cropping years since 2014, there's room for optimism. The project has graduated one MSc student, involved

numerous undergraduates and generated regional attention. This remains a collaboration with Dr. Tim Hartmann, Texas Agrilife Extension Specialist.

3) A recently funded project (Texas Department of Agriculture/USDA Specialty Crop Block grant) on the potential of pineapple guava as an economic crop in Texas, a research collaboration with TAMU's Dr. Tim Hartmann, Texas Agrilife.

4) A project funded by SFASU's Center for Applied Rural Research and Innovation (CARRI) in 2022 created a two-acre drip irrigated research plot for an in-ground tree and shrub nursery at the 12-acre CARRI headquarters on Stallings Drive, NW side of Nacogdoches. The mission of this work is to find, evaluate, propagate and promote climate resilient woody ornamental trees for Texas. We think the property has strong potential as an East Texas Urban Ornamentals Research Center, one that could generate data, publications, excitement and a good return on investment.

SFA Gardens continues to serve as a premier learning resource for students in Agriculture, Forestry, Horticulture, Environmental Science, Biology, Art and other disciplines. The CEB provides a fine environment for use as a classroom or lab. Over many years the gardens have served as a teaching/training/doing resource for SFASU students of many majors.

As a community and regional resource, the Nacogdoches Country Chamber of Commerce and the Convention and Visitors Bureau report that SFA Gardens remains a top query by phone or email from people looking for information on Nacogdoches. Heaviest visitation is during the spring azalea bloom season (early April) and the fall maple color seasonal shows (early December, typically). The seven miles of asphalt trails are popular with local hikers, runners and bicyclists.

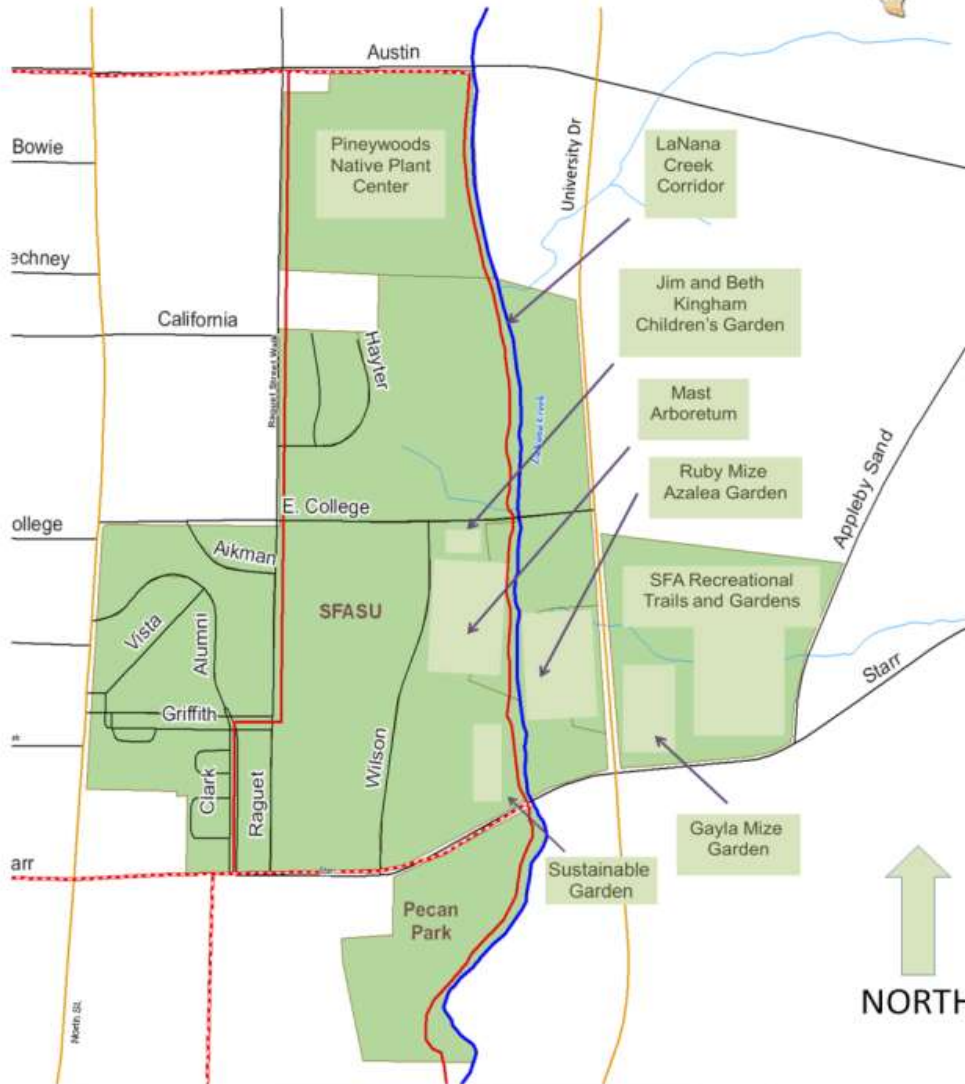
It should be noted that, over many years, the SFA Gardens and Physical Plant relationship has been and continues to be cohesive. We are colleagues on a mission for a greener SFA. With 138 acres under the SFA Gardens umbrella, our history of work with the Physical Plant Department to maintain the campus is relevant to the future of campus beautification. We salute the work and cooperative nature of John Branch, Director, Gary Williams, Grounds, and the arborist Chris Dempsey as well as all the Physical Plant personnel, whether it's in the mechanics shop, HVAC, plumbing, electricians, or custodial. The last few years has been challenging not only to SFA Gardens. The Physical Plant has seen a significant number of lost positions and cuts to operating budgets. In many ways, they remain the unsung heroes at this institution.

### **SFA HAS JOINED THE UNIVERSITY OF TEXAS SYSTEM**

At this writing, SFASU has joined the University of Texas system. The reasons for a system change are beyond the scope of this report, of course, but I can report that the staff, volunteers and supporters of SFA Gardens looks forward to new management and a return to brighter days. We look forward to the UT system looking under the hood of SFA Gardens.



**ARTHUR TEMPLE COLLEGE OF FORESTRY AND AGRICULTURE**  
**Stephen F. Austin State University**  
**Nacogdoches, Texas**



<b>LaNana and Banita Creek Trail System</b>		Date: July 25, 2013
<p>CASTILAW ENVIRONMENTAL SERVICES, LLC NACOGDOCHES, TX 75701-8991   SULPHUR SPRING, TX 75483-0334</p>	City of Nacogdoches Nacogdoches County, Texas	<b>Trail System</b> Existing - 5.4 Miles Proposed - 2.7 Miles Areas of Interest
	Created By: Neil Boltnott, Austin Russell, & Adam Miller	Data Source: CES & City of Nacogdoches Datum: NAD 83

## **VOLUNTEERS RETURN TO THE FOLD**

Historically, SFA Gardens has enjoyed a great corps of volunteers. That became history with the onset of the pandemic in March 2020. Just for a reference point pre-Covid19, the total volunteer hours for the SFA Gardens set a record in 2019 with 2449.2 hours' worth \$73,353.54. In 2020, we had 474 volunteer hours' worth \$14,196.30, most of which came in January and February, 2020. The numbers in 2021 were dismal, but the situation has definitely improved in 2022 with 1,716 hours volunteer hours recorded worth \$51,394.20. In 2023, Jordan reports 45 register volunteers with 1,967 volunteer hours' worth \$58,911.65 dollars. Later in this report, Jordan Cunningham reports on the activities and events associated with the volunteer corps.

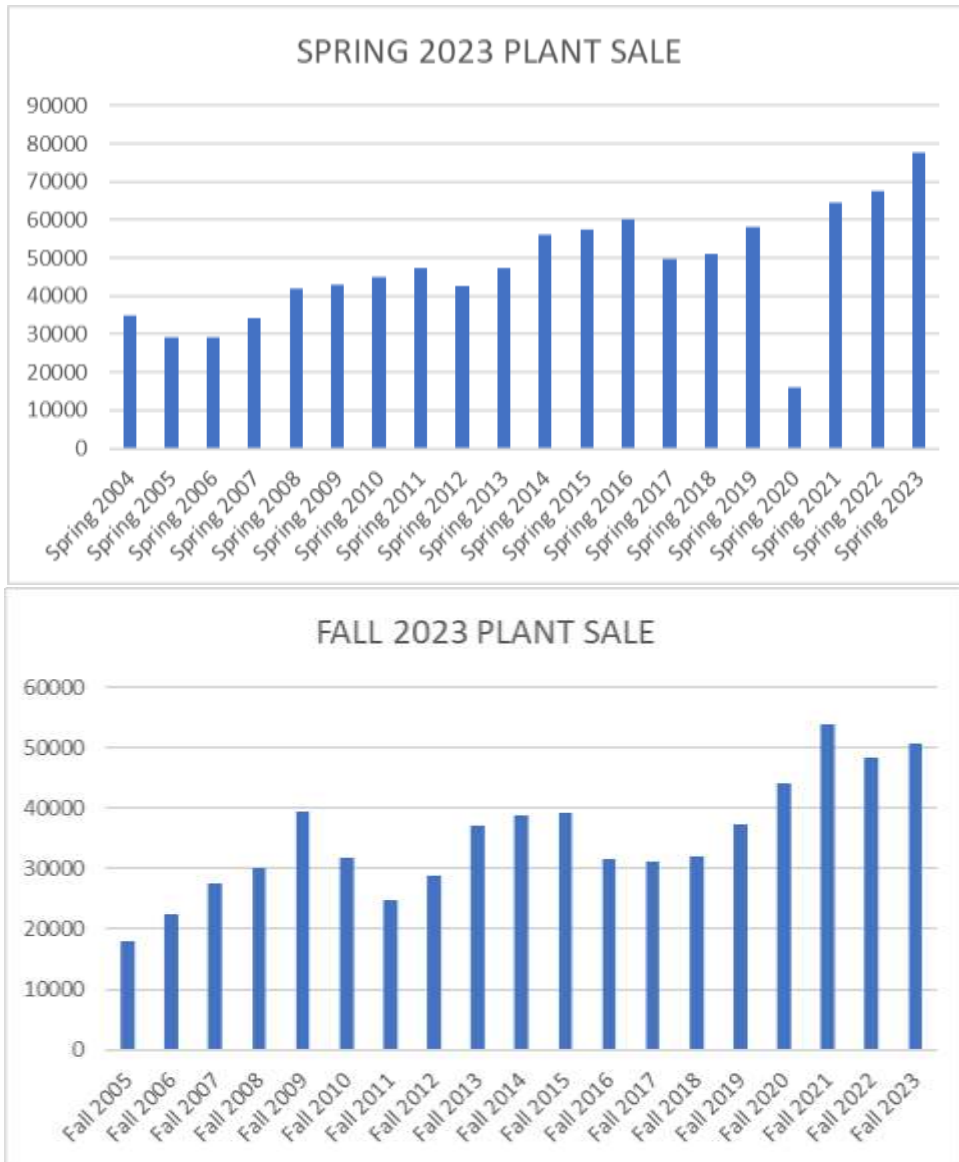
## **FISCAL AND PROGRAMMATIC HEALTH**

In the last three years, SFA Gardens lost 2.3 state salary lines for a total of \$116,000 at the time of the reductions. Our staffing fell to six at its low after covid set in, but the good news is we are back to ten salary lines (six at full time, four at half-time, a little less than 8 FTEs) and we are now 24% state funded and 76% externally funded. In comparison to Spring 2020, the gardens then enjoyed ten salary lines (a little less than 9 FTE's) and 50% state and 50% external funding. At the end of 2023, we can report that external funding has allowed SFA Gardens to survive and we are pursuing the return of state salary lines lost.

We can also report that our programming (seminars, workshops, plant sales, garden tours, volunteer hours, research projects and outreach) is back to numbers associated with pre-2020 levels.

## **SFA GARDENS PLANT SALES COME ROARING BACK TO PRE-COVID LEVELS**

The two SFA Gardens plant sales in 2023 generated a record \$128,200 total. The two plant sales have become a critical part of SFA Gardens staff salary funding. In the graphs below, the dip in the Spring 2020 plant sale income was due totally to the Covid19 shutdown. SFA Gardens countered with a hybrid plant sale in the Spring and Fall 2020 sales which worked but extending the plant sale over many weeks was not efficient. We have returned to normal plant sales and the public is back. The plant sale now encompasses two days (Saturday and Sunday) and a Friday "members only" plant sale.



Plant sale income in 2023

April 1 <sup>st</sup> - 2 <sup>nd</sup> Garden Gala Plant Sale:	77,716.31
July 8 <sup>th</sup> Summer Succulent Sale:	2,992.14
October 7 <sup>th</sup> –8 <sup>th</sup> Fabulous Fall Festival Plant Sale:	50,560.39
October 12 <sup>th</sup> - Native Plant Sale:	<u>3,906.23</u>
<b>TOTAL</b>	<b>\$135,175.07</b>

## **ENVIRONMENTAL EDUCATION PROGRAM MAKES A COMEBACK**

One of the great success stories at SFA Gardens is Environmental Education, no doubt based on the fine work of our previous Environmental Education Coordinator, Elyce Rodewald. In 2019, the SFA Gardens Environmental Education program reached over 11,000 kids in a broad spectrum of programs for ages K-12. After twenty years, Elyce retired just as the pandemic arrived in March, 2020, and the request to fill this state-funded position in the summer of 2020 was denied. That made sense then. After all, in 2020, the program essentially went to zero in March, 2020. No kids, no program. In the summer 2021, schools began calling for programming we proposed reopening the position. We were denied, learned the position was eliminated and replacing this state funded position became a major goal for our program in 2021.

The centerpiece of the SFA Gardens Environmental Education program remains the Ina Brundrett Conservation Education Building (CEB) at the Pineywoods Native Plant Center. We continue to proclaim the building as a great teaching example of environmentally sensitive methods of construction and operation. While the main focus is the children's environmental education program, this building serves the general public as well. In 2019, the Ina Brundrett Conservation Education Building was the central location for 77 events, meetings, workshops, seminars and the Les Reeves Lecture series. In 2020, that didn't happen. The CEB was turned into a classroom for classes in Forestry. The CEB was returned to our use in the Fall 2021 and programming is back. We can report that at the end of 2023 the environmental education program is poised for a great comeback.

We owe all of that to the external support garnered in the Fall 2021, which allowed us to hire Dr. Alan Sowards as the Environmental Education Programs Coordinator on a ½ time basis. Alan was a very fortunate hire, the perfect picture of right person, right place, right time. He was the life raft this important program needed then. Alan was retired, a College of Education professor. Alan enjoyed a long and successful career in outdoor education. He worked closely with Elyce Rodewald over many years, knows the school districts, and is a perfect fit for the noble effort to bring outdoor education back to school children who need it. No one knows what this teaching resource is all about more than Alan. All good things come to an end and Alan is returning to retirement and managing their new and successful popcorn business. A very happy ending, indeed. I can report that a \$50,000 grant from the George and Fay Young Foundation has funded the first year of this full-time position and that and we have grant pledges that look solid to deal with the years ahead.



## LES REEVES LECTURE SERIES

The lecture series is once per month, usually the second Thursday. It is free. There's a social before the talks which are 45 minutes to an hour. A plant raffle follows. The series was closed for more than a year but returned in the Fall of 2021, In 2023, attendance has improved but has yet to reach the marks in years prior to 2020. This last year's lineup:

### 2023 Lecture Series

January 12th - 'Everything you wanted to know about pruning and training trees but were afraid to ask.' Ben Miller, Landscape Architect, Goodwin-Lasiter-and Strong, Lufkin, TX (47 Participants)

February 9th - 'Your Friendly Neighborhood CSA: what is community supported agriculture and how you can get involved.' Cindy Pruett, Appleby Community Farm, Nacogdoches, TX (25 participants)

March 9th - 'Making Scents of the Genus Narcissus.' Greg Grant, Texas A&M AgriLife Extension Service Horticulturist - Smith County, Tyler, TX (78 Participants)

April 13th - 'Finding the Ephemeral: Chasing Elusive Botanical Treasures of East Texas.' Dawn Stover, Study Leader, USDA NRCS East Texas Plant Materials Center, Nacogdoches, TX (54 Participants)

May 11th - 'Tips and Tricks for Maximizing Sustainable Space in Your Garden' Heather Kirk-Ballard, Assistant Professor of Consumer Horticulture, LSU AgCenter, Baton Rouge, LA (40 Participants)

June 8<sup>th</sup> - 'Looking back and looking forward; our recipe for introducing new plants that make a difference.' Jim Berry, owner and president of JBerry Nursery; Grand Saline, TX (42 participants)

July 13, 2023 - 'Raising the next generation of horticulturalists, entomologists and master gardeners.' Rosanne Green, LPL Financial, gardening social media influencer; Athens, TX (35 participants)

August 10th- 'All About Bulbs.' Denyse Cummins, retired LSU AgCenter Extension Horticulturist, Shreveport, LA (50 Participants)

September 14th - 'I Wish I Hadn't Planted That (There).' Keith Hansen, retired Texas A&M AgriLife Extension Service Horticulture Agent, Tyler TX (55 Participants)

October 12th - 'Common Landscape Shrubs – Varieties and Keys to Success.' Allen Owings, LSU AgCenter Professor Emeritus of horticulture, Baton Rouge, LA; Senior horticulturist, Bracy's Nursery, Amite, LA; Horticulturist, Clegg's Nursery, Baton Rouge, LA (30 Participants)

November 9th - 'Garden Design: Creating a Dynamic Landscape.' Megan Proska, Senior director of horticulture at the Dallas Arboretum and Botanical Garden, Dallas Texas (51 Participants)

December 14th - 'The Pineywoods Native Plant Center: A Case Study in Divine Intervention.' Dave Creech, Director SFA Gardens, SFASU, Nacogdoches, TX (47 Participants)

### **STAFF CHANGES IN 2023**

#### Dr. Andrew King is a new hire

Dr. King joined the SFA Gardens team in the summer of 2023 as Assistant Director (half-time). He is externally funded. He is a former SFA Horticulture student. He received his PhD at TAMU and was on the faculty there for five years. Andrew owns and operates King's Nursery, Tenaha, Texas, the oldest continuously operated nursery in Texas. Andrew brings real world nursery and landscape experience to the program. He has a goal to create more of a research product through the resources and activities of the SFA Gardens.

#### Alan Sowards Retires

Dr. Alan Sowards retired after serving as the Environmental Education Programs Coordinator (1/2 time) since Fall 2021. This was a state funded position for about 20 years but the position was lost in the summer of 2020. We fortunately found the external funds to bring back the Environmental Education program for kids at SFA Gardens. Alan was the life raft for this valuable program. Right person, right time. As his annual report indicates, hiring him even at ½ time was a critical step forward on the path to normalcy. Alan retired in December, 2023. In November, 2023, we received a George and Fay Young Foundation grant for \$50,000, posted the position, interviewed candidates and have made an offer.

#### Peter Blanchette Retires

Gardens Technician (1/2 time), retired from his position in November 2023. brings a long history of landscape work, having served as the horticulturist at the Bicentennial Garden in Houston and for Harris County. He's retired, moved to Nacogdoches and lives down the street. At first a volunteer, then a 90 day hire and he is now in a ½ time position at the Pineywoods Native Plant Center. He has a primary focus working with Jordan's efforts in the greenhouse/nursery and has been putting in time bringing the PNPC landscape back to glory. This is a new position paid for by external funding.

#### John Carrillo

John is a new hire, summer of 2023. His primary focus is the Pineywoods Native Plant Center and Jimmy Hinds Park.

## **MICKEY ELLIOTT FAMILY FOUNDATION GIFT**

In 2019, the Micky Elliott Family Foundation awarded the SFA Gardens a gift that saved the garden. We hired two new staff, Thomas Dimmitt and Devin Stage just prior to the mid-March 2020 closing of the University. Thomas and Devin have provided the absolutely critical on the ground staff dedicated to new garden projects and landscape maintenance (planting, mulching, fertilizing, pruning, pest management and irrigation). Thomas's territory of responsibility is the SFA Mast Arboretum and Devin is in charge of keeping the Ruby Mize Azalea Garden in tip top shape. In the history of this garden, this award will be recognized as one that literally allowed the garden to survive. Without it, there's no doubt the gardens would have lost even the most modest level of maintenance we now enjoy. This gift will be ongoing based on achieving our deliverables. We intend to do just that.

## **GARDEN COLLECTIONS**

What still separates SFA Gardens from so many university gardens is the scale of work with numerous taxa, the sheer diversity of the collection. The gardens are a treasure trove of interesting plants. Japanese maples and other Acer species, camellias and azaleas are, by any yardstick, very large collections. The SFA Gardens bald cypress evaluation and improvement program is perhaps the largest in the nation. Our work with Mexico oaks and other western species is recognized by the nursery and landscape industry. Our work with the Mexico mountain sugar maple, *Acer skutchii*, has allowed this interesting drought and alkalinity tolerant species to make waves in the nursery and landscape industry of the Gulf South. In the past year we added a Ginkgo collection to the Gayla Mize Garden and an interesting circle of sweet olive, *Osmanthus fragrans* seedlings, which has strong breeding value. The reason for the success of SFA Gardens is simple. We have a long history of connecting and sharing plant materials with arboretums and botanical Gardens across the nation, and with other academic institutions, nurserymen and plant enthusiasts. As for the garden, we have good AutoCAD maps and databases that could provide basic tracking of hundreds of new accessions each year. The two most serious deficit in collections management right now is bringing maps up to date and in a cohesive document, and the lack of good labels and plant markers. We will address both issues in the years ahead.

## MOODY GARDENS PROJECT

It's a brand-new day for the SFA Gardens project at Moody Gardens, a long-term research effort to find "climate resilient plants for a 21<sup>st</sup> century Galveston Island". A 2020-2022 report to the Moody foundation is to be completed in early 2023. The 2016-2019 report is available on line:

<https://www.sfasu.edu/docs/sfa-gardens/projects-final-report-for-moody-foundation-aug-2019.pdf>

Six years after we started this project and five MSc thesis students later, we have a new arsenal of woody trees, shrubs and palms going in the ground, all there to be tested for climate and soil resiliency on Galveston Island. The two-acre plot was created in 2016 and five years later the trees, palms and shrubs, many of them quite large (6" diameter trunks), have been moved to other locations on the island (schools, city parks, Moody Gardens). SFA Gardens will continue to track their progress in their new location. This was a major cooperative effort with the Galveston Island Tree Conservancy, city personnel and Moody Gardens. The tree and palm harvest left the plots as a blank slate with plenty of work to get it ready for round two. In 2023 Staff members Devin Stage, Peter Blanchette and student assistant Trevor Capper spent a few productive days in December, 2022, refurbishing our research plot on the west side of Moody Gardens, repairing some breaks in the irrigation system and planting our first batch of trees. It's an important and timely project. See images in the pictorial portion of this annual report.

The project has generated five MSc theses since 2018. I am including an abstract presented at the annual conference in 2022 since it outlines the scholarly work that this project has generated:

David Creech\*, Steve Wagner, Kenneth Farrish, Elif Ilhan and Rachel Murray. 2022. Evaluating Ornamentals in a Salt-Challenged Environment at Moody Gardens, Galveston Island, Texas. ASHS Annual conference in Chicago, July 30 – August 4, 2022. Published abstract. **HortScience** 57(9) Supplement (Part 1) — 2022 ASHS Annual Conference: S195.

Beginning in 2016, SFA Gardens, Nacogdoches, Texas, partnered with Moody Gardens, Galveston, Texas, to create a 1.2-hectare research plot on the island. The site is located on the west side of Moody Gardens near Offatt bayou, 1.3m above sea level, occasionally inundated by high-salt bay water during storms or hurricanes. A drip irrigation system utilizes partially deionized water (.8mS/cm) provided by the Moody Gardens desalination plant. A record Winter Storm Uri in Feb 2021 damaged a wide range of marginally hardy materials (-8°C). While the primary objective of the project is ornamental plant evaluation, five MS thesis projects have been completed with titles and abbreviated results as follows: 1) Evaluation of Groundwater Sodium and Sodium Uptake in

Taxodium and its Hybrids on Galveston, Island, Texas; six Taxodium clones were monitored for three years (plant height and diameter breast height (dbh); growth of hybrids was good in spite of leaf tissue Na<sup>+</sup> values varying from 6000 to 8000 PPM Na<sup>+</sup>. 2) Assessment and Characterization of Microbial Communities in Salt Affect Soils on Galveston Island, Texas; samples from bedded and non-bedded plots treated with gypsum, mulch, or both were assessed for microbial populations and there were no consistent statistical differences in microbial populations or respiration measurements among the treatments. 3) Soil Amelioration and Plant Establishment on Sodium Affected Soils on Galveston Island, Texas; bedded and non-bedded plots treated with gypsum, mulch, or both were used to test three species of plants, live oak (*Quercus virginiana*), hybrid bald cypress (*Taxodium distichum* 'T406'), and yellow hibiscus (*Hibiscus hamabo*); plants were measured for increase in height and diameter over three growing seasons which resulted in no significant differences in treatments. 4) Effect of Mycorrhizae Inoculation on the Growth and Success of *Taxodium distichum* in Saline-impacted Coastal Soils. Treatments were: mycorrhizae inoculation, fertilizer application, and a combination of mycorrhizae inoculation and fertilizer application, and there were no significant effects on height and diameter breast height, leaf nutrient concentration, soil microbial functional diversity, as well as soil respiration; 5) Soil Salinity of Galveston and Pelican Islands, Texas; this project evaluated soil salinity levels on both Galveston and adjacent Pelican Islands in over 200 locations to produce GIS-generated soil salinity heat maps that aid in planning revegetation projects. Funded by Moody Gardens, this project has provided graduate and undergraduate students with a real-world opportunity to study a wide range of ornamentals in a salt and climate challenged environment.

We're encouraged that most of our research plot trees were tree spaded in 2021 and 2022 into various city and school parks on the island as well as plantings at Moody Gardens. We will be tracking their progress in their new and permanent home. At the plots, almost a mile of rows has been refurbished in 2022 and 2023 with bark mulch and off island sand to create slightly raised beds about 4' wide and a foot high. Our strategy is to provide young plants with a good start to get roots spreading and the plant acclimated to its home. To be honest, the conditions here can best be described as a torture test of epic proportions. The plots are three to four feet above sea level. Salty water is just a hundred yards away and high tides slide into or near the plot way too often. Add in incessant winds, salt laden air and mosquitoes the size of small birds, well, you get the picture. Big thank you to Moody Gardens, The Galveston Island Tree Conservancy, John Zendt, Donita Brannon, Nick Brown, Sabino Bilon and the Moody Gardens shop personnel for their support of this project.

In 2023, we began an initiative to incorporate a new program to this project that we find exciting. With a subcontract to LSU, we are hoping to augment the environmental

education program for Kids. Dr. Ed Bush directs the 'Coastal Roots' program which has twenty years of educating and involving school children in coastal remediation projects.

### **SFA GARDENS HAS A BRAND-NEW TREE NURSERY**

We are pleased to report that a new in-ground nursery is in place at the SFASU property on the northwest side of Nacogdoches on Stallings Drive. Previously known as the Science Research Center, this property is now referred to as the Center for Applied Rural Research and Innovation (CARRI). SFA Gardens has a history at this property. In 2010, Dr. Kim Childs, Dean of Science and Math, gave approval for SFA Gardens to use a 2-acre portion of the property and we planted 277 Mexico sugar maples, *Acer saccharum* ssp. *skutchii*, behind the main building in an open field. These grew well and we're the basis of several interesting research projects. Most of the trees were sold a couple of years ago as 30' tall, 6" diameter trees to Environmental Design, Tomball, Texas, which generated about \$70,000. Over 200 large trees ended up in various locations around the state, mostly in Walsh City near Fort Worth and in locations near Katy. They are still being tracked. After the place was emptied, we want to repeat that effort with a focus on evaluating a wider range of potential tree varieties in a full sun location, drip irrigated and just happening to have a red clay soil that is very good for tree spade efforts. The root balls hold together well. We received a much-appreciated grant in 2022 from CARRI that allowed us to establish the basic infrastructure for a new in-ground nursery. SFA Gardens staff have brought the research plot back into good shape. Thomas Dimmitt and Devin Stage, SFA Gardens staff, have taken took the lead to bring the field back into good shape. SFA Gardens will be working with Gary Williams, Chris Dempsey and the Physical Plant to plant and care for over one mile of rows of this new tree nursery. After a few years when tree calipers reach three to four inches, many of the trees will find their way to the reforestation effort at SFASU and to nearby civic projects with an interest in diversity. This project will focus on interesting genetics, primarily testing trees for their ability to thrive in Texas under challenging conditions. See images in the pictorial portion of this annual report.

## **FRUIT RESEARCH AT SFA GARDENS**

While most of the garden is dedicated to woody and herbaceous ornamentals, a significant fruit research platform is in place that is appreciated by our fruit specializing colleagues for its diversity and breadth. The program collaborates with faculty and staff in the land grant institutions in Georgia, Florida, Mississippi, Alabama, Louisiana and Arkansas. See images in the pictorial portion of this annual report.

### Blueberries

Since 1978, the SFA Horticulture program has enjoyed a history of blueberry research. We are well connected with the small fruit researchers and extension faculty across the Gulf South. The SFA Gardens blueberry germplasm evaluation plots lie on the north end of the Pineywoods Native Plant Center and the effort includes over 114 cultivars and advanced selections, typically three of each. A number of varieties have suffered after the February 2021 epic freeze. A big addition in 2023 will be planting a collection of native *Vaccinium* species of known Texas and Louisiana provenance to serve as a germplasm repository for the genus.

### Muscadine Grapes

A muscadine grape vineyard was established in Jimmy Hinds Park in 2014 and includes over 72 cultivars and advanced selections. The field is surrounded by a deer proof net fence and drip irrigation is on hand, although the vines (now eight years old) are quite healthy in this spot along LaNana creek. We are using a three-wire system and has been quite productive. We informally collaborate with Dr. Justin Scheiner, Texas Agrilife, state viticulturist, and we have a good working relationship with USDA and academic colleagues charged with this crop. It is our belief that the opportunities for this disease-free native grape are strong. Our evaluation program involves a yield estimate on a 1-10 scale, average berry size of a sample of 50, ranking of the scar when picked, whether it's dry or wet, skin thickness and a taste ranking. Dr. Scheiner at TAMU will be taking on the laboratory work to characterize the fruits brix, acidity and nutrient parameters. This year's crop was harvested by a PYO one day event with SFA Gardens volunteers and Jordan manning the booth at the entrance. The crowd was much bigger than we anticipated with folks parking at a nearby Kroger's parking lot to make their way here. It struck me as good income for a one day event and wanted to repeat it after a few weeks since we had late ripening varieties coming on . . . but we were running out of manpower and energy by then and it just didn't happen.

### Figs

A fig variety planting was established in 2014 that includes over 59 varieties. To add to the excitement, this year we have received about sixty new accessions via USDA/ARS

and they will be new to our garden. We are working with Dr. Tim Hartmann, Texas Agrilife, College Station, Texas. Tim has a duplicate planting at TAMU and we share our genetics back and forth. The freeze events in February 2021 and late December 2022 were damaging, taking good sized figs to the ground. They have rebounded well in the last two years, but I'm afraid the late December 2022 hit may take them to the ground again. I predict most will survive from the crown and we will be back in business by summer.

### Kiwifruit

A kiwifruit project was supported by Texas Department of Agriculture, USDA Specialty Crop Block Grant for three rounds. This external funding ended in December 2021 but I can report the project survives via external funding. While we have a foundation of promising varieties, we are also evaluating new genetics from the breeding program at Changsha, China. We are collaborating with a number of far-flung kiwifruit businesses. We work primarily with Nick Steyn, TopFruit, South Africa and Ross Stevenson, kiwifruit grower/businessman, Auckland, NZ. The first Kiwifruit varietal trial was planted in 2010 at SFA. This resulted in a first-ever-in-Texas crop of golden kiwifruit, *Actinidia chinensis*, in 2014. Our plots have enjoyed seven good to average crops out of the last ten years. This project is a collaboration with Dr. Tim Hartmann, Texas Agrilife Extension Specialist, College Station, Texas. On March 23, 2023, SFA endured a dip to 27°F after a month and half of warm temperatures. Open flowers, small premature fruit and foliage shoots were burned back. We lost the crop. The vines regrew well from the trunks and branches. Judging from consumer evaluations in past years, the golden kiwifruit receives high marks in taste, texture and an edible skin. Pests have not been an issue but with several new insects on the horizon that may change in the future. Vine vigor has been as good as anywhere in the world. Still, the last three years have presented climate challenges of epic proportion, including, 1) hard freeze damage on young plants, older plants seem quite unfazed into single digits, 2) late spring frosts with open flowers is an issue; we lost the crop in 2023 to a late freeze, 3) Variety selection, 4) Pollination issues; kiwifruit are either male flowers that provide pollen nearby to kiwifruit female flowers, we have one proven performer for early season, CK3, and need additional males to cover mid and late flowering golden kiwifruit varieties and selections under test, 5) tolerance to alkalinity,). It is encouraging that most older vines survived the Feb 2021 -4°F record hard freeze. The summer droughts in 2022 and 2023 have been record breaking and intense. A late December 24, 2022 freeze to 9°F was a shock on plants and some were damaged. The recent (Jan 15, 2024) freeze saw temperatures fall to 10F with over 70 hrs. below freezing. Conclusion: the last three years of climate challenges have been intense. With three farmer cooperators working on this project, we will soon have a better understanding of the cultural possibilities of green and gold kiwifruit in the Gulf South.

### Pineapple Guava

A project, "Pineapple Guava, a Potential Fruit Crop for Texas," is currently supported by a Texas Department of Agriculture/USDA's Specialty Crop Block Grants. The co-PI is



Dr. Tim Hartmann, TAMU, College Station. SFA Gardens has a long history with the species, *Acca sellowiana*.

**Abstract:** Pineapple guava, *Acca sellowiana*, is a South American Fruit grown worldwide where conditions allow. Formerly known as *Feijoa sellowiana*, this small tree has been in landscape use across the South for a century. It appreciates cross pollination and a single tree is not likely to fruit. Fruit made in the south is often inferior in size and flavor. New cultivars in China, New Zealand, Greece and Italy suggest another look at this interesting fruit as a part of the local market. The fruit has a reputation for poor shipping and storage qualities, thus local sales. We have had Pineapple guava at SFA Gardens for many years and it's a reliable shrubby ornamental tree with attractive and edible flowers. However, fruit from our trees are small and inferior, typical of most found in southern landscapes. Only with improved varieties and improved genetics can we find large sweet fruit of good quality for the market.

SFA Gardens is partnering with Texas A&M AgriLife Extension (Dr. Tim Hartmann) to continue developing pineapple guava into a new commercial crop for the Texas specialty fruit crop and nursery industry. A unique attribute of this project is the acquisition of new varieties from contacts previously made by Dave Creech and Tim Hartmann in this country and in New Zealand. The project goals are to, 1) collect yield and fruit data from the extensive trialing of over 40 varieties at two sites to identify best-performing material; 2) develop more efficient propagation techniques to make these varieties commercially available; 3) develop a comprehensive consumer preference study to identify the most marketable varieties; 4) promote the project through field days, conferences and social media. This project is located at the fruit plots that lie on the eastern side of the intramural field, west side of LaNana Creek. This project will soon determine the commercial opportunity with potential new fruit.

## **JIMMY HINDS PARK**

This special 2-acre stretch of LaNana Creek bottomland lies at the North end of the Pineywoods Native Plant Center, adjacent to Austin Street. This two-acre patch was a gift by Barbara Finney to the University, and she funded the garden development over a good number of years. She passed away July 2, 2020. Barbara enjoyed a sharp wit and was never prone to mince words. Barbara is survived by her daughter Vicki Chamberlain and sister Patricia Spearman. I met her many years ago and Barbara had much to do with spreading horticultural cheer here and at other institutions of higher learning. Her father was the very first Agriculture Instructor at SFA over 100 years ago. The Park is home to a fine muscadine vineyard and a sizeable kiwifruit nursery plot is in place, which will be harvested for plants in the next year for cooperator farms, and replaced with additional muscadine plants for evaluation. The Park is also home to a collection of *Taxodium* (Baldcypress) cultivars which includes the popular 72'-wide treehenge-like circle of weeping bald cypress, 'Cascade Falls'. We intend to capitalize on the sunlight and rich bottomland soils of this special spot along LaNana creek.

## **CLIMATE**

The last three years in Texas has seen epic climate challenges. Nacogdoches was not spared. First was the never-seen-before impact of the record mid-February 2021 -4°F record hard freeze. Damage was heavy because Winter storm Uri was accompanied with ice and snow; trees fell and large branches from above wreaked havoc in the gardens below. Second was the record-breaking heat and droughts of summer 2022 and 2023. 3) a Dec 23, 2022, 9°F event was preceded by a mild November and much of December; damage was heavy. Fourth, a May 11, 2023 flood was a tie for the worst flood in the history of the gardens. The flood topped Starr Avenue and was closed for a few hours. Fifth, a late freeze March 23, 2023 to 27F caught many plants in bloom, fruit or foliage and damage was heavy, and, finally, Sixth, the summer of 2023 is now accepted as a record heat/drought event in our region.

It's all about terminology. A new term, "climate resiliency" is making a mark to describe the character of urban trees and shrubs we should be planting. Everyone has seen the predictions of melting ice, rising seas, and violent storms punctuated by long stretches of punishing heats and droughts never seen before. In the Pineywoods, it's apparent we need more drought and heat tolerance, more salt and alkalinity tolerance in the plant materials we use, and, judging from recent events, we need our urban landscapes to tolerate low temperatures we've never seen before.

## **WISH LIST**

With the system change and new University management, the SFA Gardens has been asked by the Dean to provide a "wish list" for future needs. In order of priorities, this is the consensus of the staff:

- 1) The SFA Gardens staff, Board of Advisors, and Volunteer Corps recommend that the SFA Gardens resource stay intact as one unit at SFASU under ATCOFA.
- 2) Return the PNPC's Environmental Education Coordinator position back to the state salary line that existed in March 2020. Estimated need: \$60,000 per year
- 3) A high priority is to staff and fund a new PNPC, utilizing a combination of combination of external and state funds. We are recommending three technicians for the PNPC. 1) grounds and collections manager, 2) a nursery/greenhouse assistant grower, and 3) a conservation projects manager. Estimated: \$180,000 per year.
- 4) Returning the SFA Gardens state o and m line back to the level enjoyed in 2020: Estimated \$40,000 per year

- 5) Two ½ ton trucks for our work at SFA Gardens and nearby.
- 6) Signage and Interpretation. After thirty years, our signage and interpretation panels and plant labels need replacing. \$70,000.
- 7) Trail, boardwalk and Bridge repair. In 2021 a Bright Foundation award replaced twenty-year-old boardwalks and bridges at the PNPC with a new floor of Trex which should provide a longer life. Total needed estimated for entire garden: \$360,000. We have a proposal due Feb 1, 2024 for a TP&W Recreational Trails Grant that may handle this need.
- 8) For the SFA Gardens Fruit and Vegetable Production work and for the new tree/shrub/herbaceous research platform at the CARRI headquarters on Stallings: 2445S Schaffer wheel loader, 26 HP Kubota diesel, Multi high flow hydraulics, open ROPS, lifting capacity 5335 lbs; and equipment: HFB-60 Haugen dirt bucket, HRDG-60 Haugen Rod Grapple Bucket, HTR36X6-CC Haugen trencher, AD300-12 Haugen post hole auger, 12" Hauger auger bit, Optimal 900 Tree spade, and HST52 Haugen rotary tiller. Total cost with equipment: \$110,000
- 9) Environmental Education start up to create a “Children’s Garden” at the SW corner of the PNPC property with a small attractive “tiny home” storage building (SFA engineered and built) with porch, and an associated garden and cedar rail fence, approximately 10,000 square feet. Material and Supplies (consumables) - annual (seed, plants, live animals – live animal habitats; ie. butterflies, decomposer, aquatic macro-organisms). \$50,000.
- 10) Creation of an Urban Tree Shrub Research Center (UTSRC) at the CARRI 12-acre property on Stallings Avenue, NW side of Nacogdoches. Described later in this report. As a startup for a well and deer proof fence for about six acres of that property. \$120,000

## **CONCLUSIONS**

Our goals are primarily for putting the Pineywoods Native Plant Center (PNPC) front and center:

The 40-acre PNPC is not a named resource and our goal is to change that in the future. The three major theme gardens are named (Mast Arboretum, Ruby Mize Azalea Garden, Gayla Mize Garden and Jimmy Hinds Park). They are endowment based and have a base of support for staff and operations of maintenance. The PNPC is the sole entity that is not endowed.

Return the Environmental Education Programs Coordinator (officed in the Tucker house at the PNPC and supported by the Ina Brundrett Conservation Education Building) to its original full time state salary line position.

Expand the native woody and herbaceous collections at the PNPC and augment . We continue to develop extensive collections of small native flowering tree and shrub varieties, ones that allow side-by-side comparisons in a garden setting.

Augment our work with climate resilient trees by finding startup funding for developing a Texas Urban Tree Research Center at the 12-acre university property on Stallings. Currently the property is the headquarters of the Center for Applied Rural Research and Innovation (CARRI), an SFASU initiative. SFA Gardens has a presence there with a history of tree nursery work on the property since 2010. We are encouraged to have external support moving several of these projects forward.

At the PNPC Horticulture facility, design and install a system that allows complete recapture and recycle of runoff water. \$30,000

## DR. DAVID CREECH, DIRECTOR SFA GARDENS

### 2023 ANNUAL REPORT

#### RECOGNITION

Creech, David. Aug 1, 2023. There's Life on the Other Side of the River. As the result of the ASHS International Contributions in Horticulture Award, I delivered a presentation to the International Division of the American Society for Horticultural Science, at the annual conference, Orlando, Florida. 24 in attendance.



Creech, David. 2023. Invited speaker as the result of a Colorado State University Distinguished Alumni Award by the Department of Horticulture and Landscape Architecture: Two presentations: 1) to the Horticulture Business class on the nuances associated with of Developing a University Garden, 2) to the faculty/staff of the Department on the evolution of the SFA Gardens, 1985-present. Both at the Department of Horticulture and Landscape Architecture, Colorado State University, Fort Collins, CO. Oct 15-18, 2023. (98 total in group).

#### PUBLICATIONS/PRESENTATIONS

Guo, J. Xue J. Hua, J., Yin Y., Creech, D.L and Han, J. 2023. Research Status and Trends of *Taxodium distichum*. **HortScience** 58(3): 317-326.

Yun-long YinZhi-quan WangMing-yi Sun, David Lee Creech. 2023. *Magnolia compressa* Zhongshanhanxiao: A New Magnolia L. Cultivar (Magnoliaceae). **HortScience** 58(10):1161-1162. DOI: 10.21273/HORTSCI117229-23 LicenseCC BY-NC-ND 4.0

Wang, Z.; Shi, Q.; Chen, P.; Sun, F.; Creech, D.; Lu, Z.; Yin, Y.; Yu, C. 2023. Grafting Causes Physiological Changes and Promotes Adventitious Root Formation in Rejuvenated Soft Shoots of *Taxodium* hybrid 'Zhongshanshan'. **Plants** 2023, 12, 201. <https://doi.org/10.3390/plants12010201>

Chen T, Wang Z, Wang J, Liu J, Zhang R, Jia X, Yu C, Yin Y, Creech D. Transcriptomic and metabolomic analyses unveil the growth advantage mechanism conferred by heterosis of *Michelia* 'Zhongshanhanxiao'. **Tree Physiol.** 2023 Apr 26:tpad046. doi: 10.1093/treephys/tpad046. Epub ahead of print. PMID: 37099801.

Qin Shi <sup>a</sup>, Jianfeng Hua <sup>a</sup>, Yunlong Yin <sup>a</sup>, David Creech <sup>b</sup>, Zhiguo Lu<sup>a</sup>, \*. 2023. Moderate Application of nitrogen augments the growth of *Taxodium* hybrid 'Zhongshanshan 406' plants in coastal soils. <sup>a</sup> Jiangsu Key Laboratory for the Research and Utilization of Plant Resources, Institute of Botany, Jiangsu Province and Chinese Academy of Sciences (Nanjing Botanical Garden Mem. Sun Yat-Sen), Nanjing 210014, China. <sup>b</sup> Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962-3000, USA. **Scientia Horticulturae** 321 (2023) 112274 (1-8)

Tingting Chen<sup>1,2</sup> · Xiaoyu Jia<sup>1,2</sup> · Rui Zhang<sup>1,2</sup> · Yan Lu<sup>1,2</sup> · Chaoguang Yu<sup>1,2</sup> · Yunlong Yin<sup>1,2</sup> · Jianfeng Hua<sup>1,2</sup> · David Creech<sup>3</sup>. Somatic Embryogenesis in *Taxodium* Hybrid 'Zhongshanshan', an Opportunity to Propagate an Ecologically Friendly Species. **Journal of Plant Growth Regulation** <https://doi.org/10.1007/s00344-023-11196-5> (Accepted: 15 November 2023)

David Creech<sup>1\*</sup>, and Mengmeng Gu<sup>2</sup>. 2023. Status on the Impact of the February 2021 Winter Storm Uri on Woody Ornamentals in Texas. <sup>1</sup>2900 Raguet St., Stephen F. Austin State University, Nacogdoches, TX 75965, <sup>2</sup>Department of Horticulture and Landscape Architecture, Box 1173, Colorado State University, Fort Collins, CO 80523. ([dcreech@sfasu.edu](mailto:dcreech@sfasu.edu)) – a presentation at the ASHS SR annual conference, Feb 2-5, 2023, Oklahoma City, OK. 22 attendees

Poster judge at ASHS-SR annual conference with two other colleagues. Competition included 32 posters at the Undergraduate, MSc and PhD levels. Saturday, Feb 4, 2023 1-5 PM.

Creech, David. Nov 12, 2023. The SFA Pineywoods Native Plant Center: A Case Study in Divine Intervention. Lessons Learned from forty years of native plant studies in the Pineywoods. Native Plant Society of Texas annual conference, Nacogdoches. TX. Presentation (240 attendees) and in NPSOT 2023 Proceedings online: <https://www.npsot.org/wp-content/uploads/2023/12/2023-Symposium-Proceedings-2023.12.18.pdf?dl=0>

Oct 27-30, 2023. Attended International Plant Propagation Society Southern Region annual meeting. Past President, on the Board, serving on two committees and SFA Gardens makes a sizable contribution to the annual Plant Auction. Held at Raleigh/Durham, NC. 260 attendees

Creech, David. Jan 13, 2023. Growing Figs in the Pineywoods. Presentation at the East Texas Fruit, Nut and Vegetable Conference, Texas Agrilife, Tyler, TX. 160 attendees.

Creech, David. 2023. Expert's Choice: Chinese ironwood for fire engine red fall color. **Fine Gardening** Nov/Dec 2023; 70

I write four columns for the **Texas gardener** magazine:

Creech, David. Jan/Feb 2023. Beautyberry. **Texas Gardener** vol XLII (2): 28-32

Creech, David. Mar/Apr 2023. Saying Goodbye to Linda Gay. **Texas Gardener** vol XLII (3): 38-41.

Creech, David. May/June 2023. Climate-Resilient Plants for a 21<sup>st</sup> Century Texas. **Texas Gardener** vol. XLII (4): 32-35.

Creech, David. Nov-Dec 2023, Making Sense of the Christmas Tree Market. **Texas Gardener** vol XLIII, (1):26-32.

#### NEWS AND PODCASTS:

April 1, 2023. KTRE, Mariela Gonzales news item:

<https://www.ktre.com/video/2023/03/31/east-texans-search-their-perfect-plant-sfa-gardens-spring-plant-sale/>

July 8, 2023. KTRE, Amber Niles new item:

<https://www.ktre.com/2023/07/08/sfa-gardens-staff-prepare-plants-survive-summer-heat/>

July 24, 2023. CBS 19 interview on drought:

<https://www.kcentv.com/amp/article/weather/extreme-heat-challenges-hay-production-growth-across-east-texas/501-8050cab1-6a8e-4a01-ad09-3d656f1021cd>

Creech, David. 2023. Climate Resilient Ornamentals for a 21<sup>st</sup> century Texas. Hort Encounters, Tom Foley, Everde, California. A 45-minute podcast. PPT and taped.

Creech, David. Jan 11, 2023 – Maples at SFASU. Podcast recording by Tim and Matt Nelson, Mr. Maples, Durham, North Carolina.

#### TOURS LED:

March 15, 2023. Tour of Ruby Mize Garden for the Taiwanese Club, Harris County, TX. 33 in attendance.

April 13, 2023. Tour of SFA Gardens by Smith County Master Gardeners. 18 participants.

June 26, 2023. Sabine Master Gardeners tour of Ruby Mize and Mast Arboretum. 12 in group

#### PRESENTATIONS TO HORTICULTURE GROUPS:

Creech, David. Feb 18, 2023. Growing Fruit trees and Berries in East Texas. Presentation at Plants for Texas, a new mega retail nursery at 17470 FM 2493, Flint, Texas 75762. South side of Tyler, Texas. 18 participants.

Creech, David. Jan 14, 2023. The Natives are Restless. Keynote speaker presentation at the Master Gardener annual conference, Native Plants, Monroe, LA. 114 attendees

Creech, David. April 18, 2023. Climate Resilient Plants for the Gulf South. Presentation to the Sugarland Garden Club, Sugarland, Texas. 116 participants.

Creech, David. May 20, 2023. Japanese maples, camellias, azaleas and more; How many varieties are enough? Presentation to the Smith County Master Gardeners, Tyler, Tx. 106 participants. On line:  
[https://youtu.be/VZ4X9tMEj0w?si=s2LnSNz0Mu\\_kvUJ0](https://youtu.be/VZ4X9tMEj0w?si=s2LnSNz0Mu_kvUJ0)

Creech, David. 2023. Climate Resistant Camellias After Three Years of Extreme Weather. Presentation to the Annual Conference of the Gulf South region of the American Camellia Society, Oct 13-15, 2023, Covington, LA (63 in group)

Creech, David. 2023. Seeking Resilient Trees for Houston. To the Trees for Houston non-profit at their new location in Houston, a ten-million-dollar facility. Nov 8, 2023. 23 in attendance, mostly landscape architects in the Houston area.

Total attendees at presentations, tours, workshops - 1377

#### PROPOSALS FUNDED IN 2023:

- 1) Dave Creech (SFA) and Tim Hartmann (TAMU), Pineapple Guava Grant via TDA/USDA Specialty Crop Block Grant (\$31,935.25)
- 2) George and Fay Young Foundation, \$50,000, for the Environmental Education position (Awarded in Dec 2023 for 2024)
- 3) PI Andrew King (Principal Investigator), Dave Creech Co-PI. Oct 2023. Trialing Annuals at the CARRI on Stallings Drive. Center for Applied Research and Innovation (CARRI), funded for \$21,820
- 4) Continuing project, a SFA Gardens and Moody Gardens collaboration generates about \$100,000 per year. See text in the SFA GARDENS annual report.



PLANT SALE INCOME IN 2023: TOTAL \$135,175.0

SFA GARDENS INCOME FROM ENDOWMENTS: Seven endowments: \$78,000

## **DR. ANDREW KING, ASSISTANT DIRECTOR**

### Projects:

- Began the garden mapping effort
- Planned and obtained funding for DETAPPT (Deep East Texas Annual & Perennial Plant Trials)
- Genotypic variation of fill rate & germination of *Acer saccharum* subsp. *skutchii* seed in response to stratification treatment
- Effects of planting depth on establishment and growth of *Magnolia grandiflora* 'Kay Parris' in east Texas



### Grants/Funding:

- \$21,820 – CARRI Award for the DETAPPT
- Attended the North American Grape Breeders & Vitis-Muscadinia Alliance Conference in Fayetteville, AR to explore the potential for joining a USDA/NIFA SCRI block grant that will be submitted in 2024

### Presentations:

- 261 attendees – SR-IPPS, Durham, NC – Oct. 30, 2023

### Teaching:

- FORS 3304 – Arboriculture – 10 students

### Conferences:

- ISA Texas, Texas Tree Conference – Waco, TX, Sept. 20-22, 2023
- North American Grape Breeders & Vitis-Muscadinia Alliance Conference - Fayetteville, AR, Oct. 3-5, 2023
- IPPS Southern Region – Durham, NC, Oct. 29-Nov. 1, 2023

Articles:

- King, A.R. 2023. Here There and Back Again.... Again! SR-IPPS Proceedings, Durham, NC, Oct. 29 –

**JORDAN CUNNINGHAM**

**Presentations:**

February 14<sup>th</sup> - 'Plant sale preview' 30 mins The Four Seasons Garden Club (17 in attendance)

February 24<sup>th</sup> - SFA Gardens Volunteers Garden tour (14 in attendance)

March 15<sup>th</sup> - Lunch Bunch: Plant sale preview 15 in attendance (15 in attendance)

March 9<sup>th</sup> - 'Plant sale preview' 30 mins Nacogdoches Master gardeners (14 in attendance)

May 5<sup>th</sup> - 'Garden Hot Shots' 50 mins Pines Garden Club Talk (25 in attendance)

May 11<sup>th</sup> - Groveton 5<sup>th</sup> grade class "Day at SFA gardens" tour and demonstration 3 hrs (43 in attendance)

Augusts 16<sup>th</sup> - Lunch Bunch: Introduction and welcome back speaker (7 in attendance)

September 20<sup>th</sup> - Lunch Bunch: Plant sale preview Speaker (20 in attendance)

October 18<sup>th</sup> - Lunch Bunch: Gardening for fall Speaker (12 in attendance)

December 20<sup>th</sup> - Lunch Bunch (18 in attendance)

**Education/Conferences:**

January 18<sup>th</sup> –20<sup>th</sup> TABGA conference at the Houston Botanical Garden

March 22<sup>nd</sup> - SFA Gardens Volunteers trip to Almost Eden



June 30<sup>th</sup> - Wild About Woodies

November 9<sup>th</sup> – 12<sup>th</sup> Native Plant society of Texas Symposium

**Garden events:**

**Plant sales:**

April 1<sup>st</sup> - 2<sup>nd</sup> Garden Gala Plant Sale Total: 77,716.31

July 8<sup>th</sup> Summer Succulent Sale Total: 2,992.14

October 7<sup>th</sup> –8<sup>th</sup> Fabulous Fall Festival Plant Sale Total: 50,560.39

October 12<sup>th</sup> - Native Plant Sale Total: 3,906.23

**Garden Seminars and Events:**

SFA Gardens Ruby Mize azalea garden on the Nacogdoches Home Garden Tour May 20<sup>th</sup> and 21<sup>st</sup>

Grafting Workshop Seminar March 11<sup>th</sup> 30 in attendance

Muscadine tasting Event October 27<sup>th</sup> 25 in attendance

Deck the halls seminar December 2<sup>nd</sup> 42 in attendance

**Lunch bunches:**

Jan. 18, 2023 – Tool maintenance-Thomas Dimmitt Garden Tech SFA Gardens

Feb. 15, 2023 – Pest management- Duke Pittman Garden supervisor SFA Gardens

March 15, 2023 – Plant sale preview/designing garden containers Jordan Cunningham SFA Gardens

April 19, 2023 – Mulch, fungi and other fun things- Devin Stage Garden Tech SFA Gardens

May 17, 2023 – Turf grass problem-solving – Lee Hill owner Evergreen

Aug. 16, 2023 – Introduction and welcome back - Jordan Cunningham SFA Gardens

Sept. 20, 2023 – Plant sale preview - Jordan Cunningham SFA Gardens

Oct. 18, 2023 – Gardening for fall - Jordan Cunningham SFA Gardens

Nov. 15, 2023 – Pruning: a brief overview Thomas Dimmitt and Duke Pittman SFA Gardens

Dec. 20, 2023 – Pinecones and winter decorations - Jordan Cunningham SFA Gardens

**Volunteer Involvement:**

Volunteers for the weeks of the spring plant sale 38

SFA Gardens Ruby Mize azalea garden on the Nacogdoches Home Garden Tour May 20<sup>th</sup> and 21<sup>st</sup>

Volunteers for the summer plant sale 7

Folding membership letters August 28<sup>th</sup> 6

Volunteers for the weeks of the fall plant sale 30

Volunteers for the native plant sale 5

Deck the halls wreath making class materials collection November 29<sup>th</sup> 6

SFASU faculty and staff volunteers for all plant sales 14

Watering the greenhouse over throughout the year 20 volunteers

### **Numbers:**

5 Students workers on the greenhouse team

45 register volunteers

1,967 Logged Volunteer hours

### **2023 Goals Completed:**

- ❖ Further streamline the checkout process for plant sale checkouts

This was a major success this year! We updated the location of our ticket writers to stationary positions and brought in a line manager to help guests to the next available spot. We also implemented a new receipt system that allows for faster, more accurate balancing and a way for us to accept donations.

- ❖ Create a successful colony of *Phlox nivalis* ssp. *texensis* at the PNPC

This is still on the list for next year but know we have a plan!

- ❖ Update the following landscapes:

- Tucker house front yard (including the Lady bird Jonson Garden)

Due to the drought and the pigs this year we had to put this project on hold

- Children's garden walkway

The Children's Garden walk way got a new purple update that we will change out with the seasons. It is much cleaner and is the perfect face of the SFA Gardens on College Avenue.

- Arboretum perennial garden

Arboretum perennial garden is still a dream waiting to happen.

- ❖ Create more opportunities for volunteer involvement

We had more volunteer involvement this year and are still looking for ways to include more!

#### **Other 2023 Successes:**

- The Greenhouse team held four plant sales this year, our big sales in the spring and fall plus a summer succulent sale and a native plant sale for the Native Plant society of Texas.
- Five different SFA classes visited and toured the greenhouses this year largely from the education department
- SFA Gardens is now producing our quarterly newsletter in-house. I have taken on the production and designing of the newsletters
- SFA Gardens is building a shade house to add growing space for our shade loving plants
- The Greenhouse team implemented a new app to keep our student up to date on the work that needs to be done

#### **2024 Goals:**

- ❖ Create a successful colony of *Phlox nivalis* ssp. *texensis* at the native plant center
- ❖ Have more opportunities for volunteer involvement
- ❖ Create a shareable log of successful native seed germination

## **TAMMY PURSER - PROGRAM ASSOCIATE**

The Program Associate position was created in May, 2016 for support and expansion of existing programs including:

- Garden Membership and donor relations
- Event and tour scheduling
- Booking and management of events in the Brundrett Conservation Education Building and Gardens.
- Contract management
- Coordinating the quarterly SFA Gardens Newsletter between staff and marketing
- Preparing for quarterly Board of Advisors meetings
- Managing contracts, press releases and accommodations for Theresa and Les Reeves Guest Speakers
- Assisting with the review of garden accounts/grants, publications, travel and other duties as assigned.
- Preparing for and working Plant Sales sale weekends: taking payments and deposits as well as helping gardens volunteers and staff members as required
- Advertising key events such as Plant sale and speakers with the media, newspapers, Visit Nacogdoches etc....
- Answering phone messages/emails from community members and others looking for plant advice or more information about SFA Gardens



My first full year in this position at SFA Gardens kept me busy on all above and looking at ways to enhance processes to benefit SFA Gardens Members, our generous Donors and our always supportive Nacogdoches community and SFASU. I am thrilled we are now a part of the University of Texas System and already see positive changes to SFA. As a purple bleeding Lumberjack, I feel the best is yet to come for my alma mater.

### **Some highlights:**

At the time of this writing in December 2023, we currently have 150 Active Garden Members at various membership levels. I greatly appreciate all who renew each year and new members who have joined as well and enjoy seeing members at our Plant Sales.

The Gift report spreadsheet we receive from Development Office on a monthly continues to be a valuable resource and keeps the two departments in sync with our memberships and donations.

Building rental procedures, speaker contracts process has been updated and is going smoothly now with the Business Office, Contracts and Speakers and those using the building.

Deposit procedures have been changed and streamlined, saving some time and paper. New Process to provide information to the Foundation also streamlined with me delivering the information to them directly vs routing through business office. This helps us reduce paper use and store documents electronically and be more secure and environment friendly (per SFASU policy guidelines)

My Nacogdoches Visitor and Convention Bureau Board member role provided ways to promote the Gardens with city leaders and also keep up with what else was going on in the city was doing as well. We promoted all our main events on Visit Nacogdoches Facebook Site and website and the Spring Plant Sale is on the Yearly What is Happening Poster.

Jordan and I improved the renewal reminders for Membership and we send out email reminders and I also stamp time to renew on newsletters as well. The process worked as each time email was sent out, it triggered renewals and would see a few renewals after a newsletter with the stamp reminder was mailed as well.

### **In 2023 SFA Gardens saw many individuals and groups enjoy our gardens:**

- **Garden Events Hosted:**
  - 3 Saturday Seminars –
    - Grafting Workshop with Dr Creech
    - Spectacular Science Saturday with Dr Sowards
    - Wreathmaking Workshop with Dawn Stover.
  - 12 Monthly Les Reeves Lectures - 554 attendees, 46.2 average.
  - 10 Lunch Bunch / Volunteer meetings
  - Fruit Field Day
  - Wild about Woodies Industry Event
  - 4 Plant Sales: Spring, Summer and Fall and one for the Native Plant Society of Texas Symposium attendees.
  - 2023 Garden Capital of Texas Tour of Home Gardens. Ruby Mize Garden was one of the stops on the tour this year. Our volunteers led guided tours on May 20 and 21.
  - Azalea season was busy with tours- 4 Garden clubs, along with Sabine County Master Gardeners and Harrison County Extension agents enjoyed

guided tours with staff and our volunteers. Even had a couple impromptu tours.

- **Brundrett Building Use:**

We increased our internal SFA use of the building. The collaboration we have with other parts of campus continues to grow and more and more students learn about SFA Gardens and we have to offer here.

13 Rentals by these Campus Groups: Alumni Association, Campus Rec, Center for Career and Professional Development, Chemistry, College of Education, Multicultural Affairs, Orientation, Pre-Law Academy, Sports Medicine, University Marketing (twice); Veterans Affairs (twice).

We had 1 external group do a monthly rental (10 uses) and 3 other external groups used the facility as well.

We were thrilled seeing local area students in our Gardens enjoy Environmental Education programs which utilize the Brundrett Building: Bugs, Bees, Butterflies and Blossoms in the Spring and Wild about Science in the Fall. We hope to see more events such as these in 2024 with students! See details in Alan Sowards section of this report.

### **Conferences Attended, Presentations, ATCOFA meetings**

- Texas Association of Botanical Gardens and Arboreta annual conference - (TAGBA) -Houston, TX; January 18 - 20
- Joint ASA - Azalea Society of America /ARS - American Rhododendron Society Convention – Atlanta, GA; April 19 -23
- Deep East Texas Travel and Tourism Conference – Nacogdoches, TX; May 24
- Flora Garden Club- November 3 - I was invited to be a part of a presentation about Gardens to visit within a few hours of Nacogdoches: Houston Botanic Garden, Houston, TX; Shangri La Botanical Garden, Orange, TX; Mercer Arboretum and Botanic Gardens, Humble TX
- College of Forestry and Agriculture – Had the honor of sitting in on meetings in the beginning planning Phase of the new SFASU ATCOFA College of Forestry Agriculture Building and share input from SFA Gardens staff perspective.

### **Required Training Completed:**

- SFA Compliance Training
- FERPA Training
- Receipts and Deposits Training
- PCI Compliance - Basics of Credit Card Security
- PCI Security Awareness and Acceptable Use Policy
- Search Committee Training Online



- I also attended some sessions which University Marketing offered to learn more about external communications and university policy: Photography, Emails, social media, Press releases.

#### **Future Goals for this position -**

- With new environmental Ed coordinator - Brainstorm more ways to have SFA Students utilize the gardens. (Study breaks?)
- Wedding and facility use pricing and policy update needed to meet UT System policy guidelines.
- Look into Automatic renewals option when members do a membership online – make less cumbersome.
- Continue to improve Donor relations by looking at what other Gardens are doing and implement what we can here (need additional staff/funding).
- Review SFA Gardens membership levels and perks and add more perks when additional funds allow.
- Continue to Work alongside SFA Staff, volunteers and development office on ways to grow our membership base.

## **ALAN SOWARDS – ENVIRONMENTAL EDUCATION PROGRAMS COORDINATOR**

Nacogdoches Junior Forum announced awarding Christ Episcopal School \$1,381.36 for the 2022/2023 school year. These funds will be used to purchase garden supplies, garden literature/art, a compost bin, and construction of a water recovery system (rainwater cistern). Dr. Alan Sowards, Environmental Education Program Coordinator (SFA Gardens) was designated Project Director to coordinate these projects. Junior Forum volunteers will also assist with the implementation of the community service connection. These funds extended the raised garden project started in Fall 2021 from a \$2,100 HERO Grant from Lowe's awarded to Christ Episcopal School's 120 Pre-K through 5<sup>th</sup> grade students.

**80 Pre-K through 5<sup>th</sup> grade students participated**  
**8 Teachers**



### **SFA Gardens Celebrates 25 years of Bugs, Bees, Butterflies and Blossoms On Friday, April 14, 21, and 28, 2023**

the SFA gardens hosted the 25<sup>th</sup> Anniversary of Bugs, Bees, Butterflies, and Blossoms (BBBB) at the MAST Arboretum. 94 elementary classes, 2000 K-2<sup>nd</sup> grade students, from 17 surrounding East Texas schools participated in this successful environmental education program. 33 Stephen F. Austin State University Science Education Interns taught four 30-minute activities that these students rotated.

11 East Texas schools participated  
94 elementary classes  
2,068 K-2<sup>nd</sup> elementary students  
33 SFA Elementary Science Interns  
188 elementary teachers

**We started the BBBB** (from a "Growing Minds Grant) **in 1998** and through **2023** these are the following number of participants:

Spring of 2023 was our **25<sup>th</sup> Anniversary of BBBB!**

Total number over 25 years  
**49,883 elementary students (K-3<sup>rd</sup> grade)**  
**1,738 SFA Science Interns (my students)**  
**2,481 classes (approx. 20 students in a class)**  
**4,962 + classroom teachers**

### **East Texas Adventures: STEM Academy** **A Texas Parks and Wildlife Department CO-OP Initiative**

SFA Gardens, through the assistance of Dr. Alan Sowards, wrote a support letter to Dr. Tonya Jefferies and Dr. Sarah Straub, SFA College of Educational Studies, to partner on a Texas Parks and Wildlife Department CO-OP grant. The project was called East Texas Adventures and the program targeted historically underserved female middle school students in Nacogdoches ISD and focused on STEM, with special attention on environmental science, mentorship and youth empowerment.

The grant was awarded and the two Adventures we assisted were held March 25, 2023 at the Texas Freshwater Fisheries Center (TFFC), and the second was held on April 15, 2023 at the Pineywoods Native Plant Center. The Adventure held at the

TFFC in Athens, Texas concentrated on fishing and testing water quality by physical, chemical and biological (bio-Assay) data collections. Students toured the museum, observed a dive show, rode a tram around the Fish hatchery, and hiked the environmental trail.

The Adventure held at the Pineywoods Native Plant Center involved students traveling to McMichaels Middle school in Nacogdoches, Texas to create several raised garden beds. Students also observed live decomposer organisms (millipedes, Bess Beetles etc.) and discussed their importance in recycling nutrients in the soil. In the afternoon students were transported to the Ina Brundrett Conservation Education Building to study identifying animal tracks. Each student used plaster of Paris to make their own animal track. Activities demonstrating the importance of pollinators and a tour of the SFA Garden greenhouses were also provided during this Adventure.

40 Middle school students  
10 Middle School Teachers  
5 SFA Interns

SFA Gardens hosted their first “**Spectacular Science Saturday**” workshop from 9 a.m. to noon June 17, 2023 at the Brundrett Conservation Education Building, located at 2900 Raguet St.

Families with school aged children were invited to join Dr. Alan Sowards in an exploration of science activities, demonstrations and games designed to involve parents in the science learning experience.

The activities were selected for first grade through fifth grade children accompanied by a parent or guardian. Children created their own animal tracks, observed live bees in a self-contained bee hive, and dissected an owl pellet to discover what owl's food preferences. They explored the importance decomposers in the forest, made butterfly life cycle bracelets, toured the SFA gardens green houses and potting a plant to take home. The lesson and activities were led by Dr. Alan Sowards, SFA Gardens Environmental Education Program Coordinator. He was assisted by Jordan Cunningham and Tammy Purser. Dr. Sowards has taught outdoor education science for 45 years and has received local, state, national and international recognition for his work in environmental education

"Science is all around us," Dr. Sowards explains. "Parents can help instill the love of exploration by involving their child to many outdoor education opportunities. What better place to explore than the SFA Gardens."

Awarded the George and Fay Foundation Grant of \$50,000 for Fall 2023 to provide a full time Environmental Education Program Coordinator.

WILD About Science -October 27 and November 3, 2023  
43 SFA Elementary science Interns  
7 Elementary Schools  
415 5<sup>th</sup> grade elementary students  
36 classroom teachers

Education program director Dr. Alan Sowards and Dr. Melissa Huling, Elementary Education Studies professor, along with Mr. Ted Stevens, Education Director for the Texas Forestry Association and Project Learning Tree State Coordinator, kicked off this year's WILD About Science field investigation at the SFA Gardens. The Wetland Adventure/WILD About Science has been offered to 4<sup>th</sup> & 5<sup>th</sup> grade students from the East Texas area since 2002. Following are numbers of participants in this 21-year science education event:

**15,908 Elementary & Middle School Students (grades 4-5)**  
**1,575 SFA Science Interns**  
**809 classes (approx. 20 students in a class)**  
**1,578+ classroom teachers**

Science topics covered this year included participating in fun hands-on science activities to better understand the structures and functions of trees and their importance in the

ecosystem; to engage students in a game simulation to help them understand the concepts of erosion and how erosion can affect water quality and animal habitats; and demonstrations showing students how different adaptations can help animals survive in their habitat.

“These types of field experiences motivate students by including them in their own learning, and helps them retain the information more easily. Participating in these activities at the SFA gardens also teaches them to appreciate and take care of their natural environment”.

Ongoing collaboration with groups like Project Learning Tree and funding from generous donors in the community, SFA Gardens hopes to continue to offer science programs such as these in the future.

### **DUKE PITTMANN – LANDSCAPE SUPERVISOR**

Since 2007, I have tried to provide leadership across the entire garden. I wear many hats. 2023 has been a challenging year with freeze damage from the Dec 2022 freeze and the summer of 2023 drought and heat. The latter challenged our ability to keep up with irrigation needs. Line breaks, animals chewing on drip pipe, and unanticipated problems are part of this job. With drought came issues with feral pigs making a mess at the PNPC, primarily, but also at the Ruby Mize and Gayla Mize Gardens. I’ve also taken on the lead supervisor at the CARRI project on Stalling Drive, a new project that will be quite exciting. This is a long-term threat that needs university commitment to cure. I delivered a seminar to the lunch bunch Feb. 15, 2023 – Pest management- and have been available on tours.



## THOMAS DIMMITT – MAST ARBORETUM TECHNICIAN

The year commenced with participation in TABGA (Texas Association of Botanical Gardens & Arboretums) in Houston, Texas. The talks were enlightening, providing insights into what proved beneficial or otherwise for the diverse public gardens of Texas. Notably, a successful land swap was concluded between SFA Gardens and SFASU Agriculture Department. This involved the delicate transplantation of various well-established large agaves, yuccas, and dickyias from the Elking environment to different sections of xeric landscapes within our gardens.



Furthermore, for our Spring and Fall plant sale, numerous trailer loads of plants were meticulously sourced from partners and collaborating nurseries across Texas and Louisiana. A significant milestone was reached when we received a generous donation in the form of a hoop house. After disassembling it in Tyler, Texas, we are currently in the process of assembling it, with the project slated for completion by 2024. This addition will significantly enhance our capacity to cultivate shade crops.

The unfortunate flood on May 11th posed a considerable challenge, necessitating the removal of debris, pruning of damaged specimens, and trail restoration. Despite the setback, our resilient gardening spirit prevailed, and efforts focused on successfully reapplying mulch, a task expected to be completed by Winter 2024. The scorching and dry summer posed additional challenges, making irrigation a top priority. Initial difficulties arose due to flood-damaged risers, but measures were taken to address these issues.

Looking ahead to the coming year, our goals include continuing the mulching process, enhancing the irrigation system, completing the construction of the hoop house, and ensuring the thriving growth of our plants within the captivating landscape of SFA

Gardens. Despite the adversities faced, we remain steadfast in our commitment to the enduring beauty of our botanical heaven.

Nov. 15, 2023 – Pruning: a brief overview Thomas Dimmitt and Duke Pittman SFA Gardens. 9 in attendance

### **DEVIN STAGE – GARDEN TECHNICIAN (RUBY MIZE)**

The 2023 year has come to an end and now it is time to reflect on the accomplishments and hurdles that have been achieved and overcome. While continuing to work for the SFA Gardens system this year, I have had the opportunity to attend conferences, Gardens near and far, escort knowledgeable master gardeners, and attempt to absorb as much information as I can manage to retain.

The beginning of the year was off to a great start, staff members including myself were able to attend the TABGA Annual conference hosted by the Houston Botanical Garden. This was an enjoyable event as we were provided the chance to tour the garden and interface with neighboring garden/ horticulture personnel, sharing with one another the progress each was making in their respective spaces.



Early in the month of May, the university campus suffered as much of it was submerged under rushing flood waters. On the morning of May 11<sup>th</sup> staff members arrived at work to witness LaNana Creek, as it continued to rise to heights up to or greater than four feet above the stream banks. The Ruby Mize Azalea Garden only suffered the loss of one great water oak as the saturated soil and high winds were too great for the tree to withstand. However, the garden was impacted by not only one over bank pulse, but two. Burrows creek borders the north end of the garden, which feeds into LaNana Creek. These two converging water ways brought with it from neighboring grounds, all various forms of woody debris as well as trash. The flood water consequently deposited the

materials on and beneath the plants. Trails suffered also as the flowing water swept away large amounts of sediment from the trail edges. The greatest space for this to be seen was found at the toe of the large metal bridge that spans across the LaNana Creek. After the waters had subsided a step of approximately one foot was left to be amended.

With the assistance of many garden volunteers, the debris was removed from the foliage of plants as well as the root balls. There were unfortunately many losses as newly planted plants were uprooted and taken away down the creek. Other losses were from fungal decay that exploited the prolonged condition of saturated soils that attempted to erode our plant collection. With the time and care allocated to save the garden, there were far more successes to be listed due to the combined efforts of volunteers and staff. The garden almost appears to have benefited from the disturbance.

Staff members were privileged to assist in lumber procurement for the SFA ATCOFA Forestry Field Station. Logs were bucked to size and transported to the gardens headquarters, the Piney Woods Native Plant Center (PNPC). This achievement is wonderful as it contributes to the advancement of students pursuing an education in forestry and natural resources.

The SFA Grounds Department was critical in aiding in the recovery following this year's BIG FLOOD. They generously allowed us to utilize their dump truck on many occasions. This along with the garden's skid steer allowed for large debris to be transported to the dump. Also, the use of the dump truck assisted in the countless yards of mulch sourced from the SFA dump needed to amend and build up garden beds. Mulch was distributed to all corners of the gardens and fruit plots thanks to this assistance. A very large, partially hollow pecan tree was removed by me and Jonathan Carrillo. This was also thanks to the grounds department as they allowed us to borrow their lift needed for the removal of the tree while reducing collateral damage to adjacent plants.

The Ruby Mize Garden's parking situation continues to improve. Additional parking has been made available through the utilization of reclaimed rock also gifted from the SFA Grounds department. This addition does not yet fulfill all the parking needs of the garden, yet it has expanded by nearly half of its original volume. Mulch has been brought in around the parking feature to allow for more plantings. The plan as of now is to attempt a new pollinator garden this coming spring.

Nearly all the beds within the Ruby Mize Garden have had all dead woody debris removed and soil amendments have begun. In the months to come, many beds will appreciate new plants while some beds will be subject to redesign entirely. Many plants such as the Japanese Maples found within our collection are intolerant of prolonged



saturation and for this reason Trail amendments will continue with special attention being brought to the drainage system that has already started.

Collaboration between grounds has aided in the delivery of many loads of rock needed for the foundation of the PNPS's new shade nursery pad being constructed. Jonathan Carrillo and I also took the opportunity to address the aesthetic issue of the wall of unwanted trees in the understory of the wood line near the path where the new nursery has been erected.

**Conferences attended:**

TABGA: Houston

Texas Society of Arboriculture: Waco

IPPS: North Carolina

**Talks given:** "MULCH MADNESS" (Feb.) Approximately 20 attendees.

**Tours given:**

Texas Forest Service: Approximately 50 attendees

Fruit day

Wild about Woodies

Master gardener tour of gardens: Approximately 15 attendees

In the new year I am to visit *Jensmaples* located in TN. This will be an opportunity that will provide myself with experience in grafting Japanese Maples. With this experience I intend to return with the knowledge to help grow the SFA Garden's plant collection while also being a better aid in what grafting workshops are to come. It is my intention to further assist in the ongoing projects located at Moody Gardens on Galveston Island, and the urban tree nursery located at the CARRI research property located here in Nacogdoches TX.

My greatest appreciation to the donors who continue to support and sustain the gardens. We will continue to cooperate with neighboring departments here at SFA. This collaborative effort is aimed at appreciating the experience of the SFA lumberjacks, citizens and visitors who come to witness the beauty of the Gardens here at Stephen F. Austin State University Campus.

## JHETT MYERS – FRUIT TECHNICIAN

As Fruit Research Technician at SFA Gardens many issues were faced in the year of 2023, from a late freeze that destroyed spring buds and flowers on kiwis to floods that swept away rare genetics at the kiwi plots, and at the intermural field plots, specifically recently planted figs. Beyond the issues faced earlier in the year there have been new fruit introduced to our research, from the planting of persimmons, jujubes, blackberries, and the addition of new pineapple guavas, kiwis, and figs; slowly but surely empty rows at the intermural field are being filled.

The Freeze experienced earlier this year cost this year's kiwi harvest however it brought somethings to light such as kiwi cultivar ML585 which suffered the most mortality in the field as the shock was too great for this green kiwi to withstand. The freeze also showed the rapid growth figs are capable of when frozen to the ground with some reaching over 8 feet tall. Due to the mass death of ML585 they had been removed from the field and their use in the future is questionable. Mommy nature's cruelty would not end at the late freeze as the flood posed quite a challenge, recently planted figs were swept into Lanana creek, kiwis submerged under dark murky water and debris littering the fields, caught in branches and amongst the rows, mama said there'd be days like this. Debris removal became a daily chore in the aftermath, logs, small trees, and uprooted plants pulled from the trellis system at the kiwis. No damage was suffered at the blueberries or muscadine grapes, though the grapes were caught in the flood. The flood ushered in a severe drought over the following summer, which created several issues beyond water usage, such as the encroachment of hogs onto SFA Gardens property, a yearly issue. Hog damages were primarily suffered at the blueberry plot and the muscadine grape vineyard, which was remedied with weekly fence repairs, however damage still occurred. The drought also prompted the hand watering of plants, as drip irrigation was insufficient to meet the water demands of blueberries, kiwis, and freshly planted figs, other fruit were fine with the water provided by drip irrigation.



Looking past the difficulties there were many positives, kiwis were planted in a new configuration at the Grounds kiwi patch to see the flowering times of many different female plants, and CK3 was the male primarily used. Kiwis were also removed, all kiwis that were located at Jimmy Hinds were removed, with the help of then 90-day hire Trevor Capper. Maps were updated to include plant losses and additions at the Grounds kiwi patch, the intermural field, and the blueberry patch. Written maps were then put into excel and used by SFA ATCOFA's Spatial Science program to produce drone maps that denote cultivar.

Ultimately, 2023 was an eventful year for SFA Gardens, new fruit has been added to our collection, the strain of nature has been endured and we look favorably to our future. Some goals wished to be achieved going forward would be improved weed control, and timely irrigation fixes, as well as repairs to be made on the trellis system in use at the older kiwi cultivars found at the kiwi patch on Starr Avenue.

### **JONATHAN CARRILLO - GARDEN TECHNICIAN (PNPC)**

Jonathan Carrillo is a new hire and is exempt this year from providing an annual report for 2023. He is the first-ever Technician assigned solely to the Pineywoods Native Plant Center. While only on board a few months, we can see and feel the difference here. New plants, new plans and excitement are part of the plan.



# **2023 PICTORIAL REVIEW**

## SPECIAL PEOPLE FROM FROM NEAR AND FAR



From top left, clockwise: Garden club visits were up in 2023 in 2023, Will Fleming (premier plantsman) and Dave Creech, Barbara Stump (longtime SFA Gardens employee and creator of the Ruby Mize Garden), and Dawn Stover (now with USDA NRCS) leading a wreath workshop.





From top left, clockwise: John Greenleaf, noted author and plantsman from San Francisco, California; Dr. Andrew King presentation at the IPPS Southern region annual conference, Raleigh, NC; Taiwan Garden Club, Houston, TX, and Dr. King with legendary plantsman Dr. Mike Dirr at the JCRaulston Arboretum, NCSU, Raleigh NC.

## A MEAN AND VICIOUS CLIMATE IN 2023



The flood of May 11, 2023 was first or second worst in Nacogdoches in over forty years. The flood topped Starr Avenue and put the intramural field, Ruby Mize and much of the Mast Arboretum under water. Top: Kiwifruit plot on Starr. Bottom: Trialing Garden.



Top, clockwise. 1) Chris Dempsey, SFA Arborist, and Devin Stage, Ruby Mize Tech with a fallen soldier in the Ruby Mize, 2) Duke Pittman after the flood of May 2023; 3) LaNana creek corridor and our Taxodium soldiers did not budge.





Saturday & Sunday, May 13-14, 2023

# The Daily Sentinel

Vol. No. 124 Issue 70 • 5.2

NACOGDOCHES, TEXAS

Home of Stephen F. Austin State University

Local: Salvation Army raising funds » 3A Sports: Woden boys fall in playoffs »



Flooding along Lanana Creek on the Stephen F. Austin State University campus is shown in this drone photo taken by Dr. Daniel R. Unger, professor and geospatial scientist, and part of the drone team in the Arthur Temple College of Forestry and Agriculture.

## City, county declare disaster Creeks overflow after massive downpour

BY JOSH EDWARDS  
Staff Writer

A severe storm Thursday dumped as much as 7 inches of rain across parts of Nacogdoches County, flooding homes, businesses and roads as clogged streams and creek beds were overwhelmed with water leading to disaster declarations on the city and county level.

Nearly four dozen roads were closed because of high water Thursday morning, and floodwater crept into businesses, homes and county government offices along Lanana and Banita creeks in Nacogdoches. The water receded around 4 p.m. Thursday.

"These conditions will create a public safety hazard," County Judge Greg Sowell said in a disaster declaration Thursday afternoon, noting that "an effective response is beyond the capability" of local government.

Nacogdoches Mayor Jimmy Mize is-



Josh Edwards/The Daily Sentinel

People walk to examine flooding Thursday at the south entrance of Pecan Park on Logansport Street. Widespread flooding lead County Judge Greg Sowell and Nacogdoches Mayor Jimmy Mize to issue disaster declarations Thursday afternoon.

## Flood believed to be 'near a record event'

BY NICOLE BRADFORD  
Staff Writer

Two of Nacogdoches' most scenic amenities are also typically the culprits when the city is flooded.

Thursday morning's deluge



Lanana Creek crested at 19.58 feet around 10 a.m. Thursday, according to the U.S. Geological Survey. USGS does not list an

UNIVERSITY

## Abbott sign bill allowin SFA to join UT System

BY JOSH EDWARDS  
Staff Writer

It's official: Gov. Greg Abbott signed legislation allowing Austin State University to join the UT System.

Abbott signed Sen. Robert Nichols' Senate Bill 2025 on Wednesday. The same day the university announced that Gina Ogilvie will take over as interim president.

The bill went into effect immediately after unanimously passing both Texas Legislatures.

UT System board chair Elife and chancellor Jettis issued a joint statement Friday saying SFA's regents, Nick Travis Clardy of Nacogdoches and Abby of Lufkin.

"The University of Texas is excited to welcome Stephen F. Austin into the UT family. We are helping SFA continue its programs that have been unique for a century and are looking forward to the ways we can ultimately serve the state and its people."

Reports on W

LAW ENFORCEMENT

## Memori honor fa peace of

BY JOSH EDWARDS  
Staff Writer

In a ceremony typically filled with symbolism and meaning, Nacogdoches County will mark Peace Officer Memorial Day on Tuesday by honoring the nearly dozen local law enforcement officers

Front page new for the record breaking May 11, 2023 flood, . That aerial shot is College Avenue Bridge and the SFA Gardens Taxodiums lining LaNana creek.

**INFRASTRUCTURE ISSUES**



The renovated boardwalk and two projects looming. Our twenty-year-old infrastructure is failing and we're on a mission of repair, one project at a time.

**CONTINUING EDUCATION**



At the Ina Brundrett Conservation Education Building, the grafting workshop (Dave Creech) and Wreath making workshop (Dawn Stover) are favorites.

**ENVIRONMENTAL EDUCATION FOR KIDS**



The SFA Gardens Environmental Education Program has recovered from the Covid-19 shutdown. Dr. Alan Sowards came out of retirement to rescue this important program. Alan has a long history of working with our previous coordinator, Ms. Elyce Rodewald, on numerous events and programs.

## JORDAN WEARS MANY HATS

Jordan Cunningham is our greenhouse/nursery grower and responsible for the two main plant sales per year (\$137,000 in 2023). She manages our staff and volunteers for two megaevents, one sale in early April and one in Early November. She also contributes to the landscape and prairie work at the PNPC and Mast Arboretum



Top left, clockwise: 1) Jordan with Lantana, 2) Coreopsis and Phlox, 3) Perched upland prairie at the PNPC, 4) Jordan and crew all dressed in blue for

## VOLUNTEERS



It's all hands-on deck for the two big plants sales per year.



Big thank you to Lee Hayden for sprucing up the SFA Gardens cub tractor. This tractor has enjoyed hundreds of vegetable production students working it in the early years of SFA Horticulture.

Volunteers are a critical part of the SFA Gardens plant sales and event set up. Without their help, we don't exist.



A new shade structure is part of our plan and a big thank you for Bill Sprague, volunteer, for helping us get it up and going.



# MOODY GARDENS PROJECT



The Moody Gardens project continues with an extension of the existing three-year project to Dec 2024. This unique project since 2016 has serious implications for the future of germplasm evaluation. Climate Resilient Ornamentals for a 21<sup>st</sup> Century Galveston. We are refurbishing the nursery research plot, adding an environmental education for kids' program via 'Coastal Roots' – a Dr. Ed Bush, LSU Horticulture program perfect for the island – and we are designing a number of research projects for 2024 implementation.

**ALTERNATIVE FRUITS AT SFA GARDENS**



. From Upper left, clockwise: Jujubes, Muscadine grapes, Figs, Blueberries and an advanced kiwifruit selection, CY38.

Dr. Tim Hartmann, Texas Agrilife Extension Specialist, has been our partner for many years on a number of TDA-USDA Specialty Crop Block grants. Above is Tim at TAMU with the TAMU Pineapple guava harvest.



A collaborative pineapple guava research project has been funded by the Texas Department of Agriculture's Specialty Crops program, is off and running. Dr. Tim Hartmann, Texas Agrilife Extension Specialist, and Dr. Dave Creech, SFA Gardens, are screening a wide range of cultivars for Texas

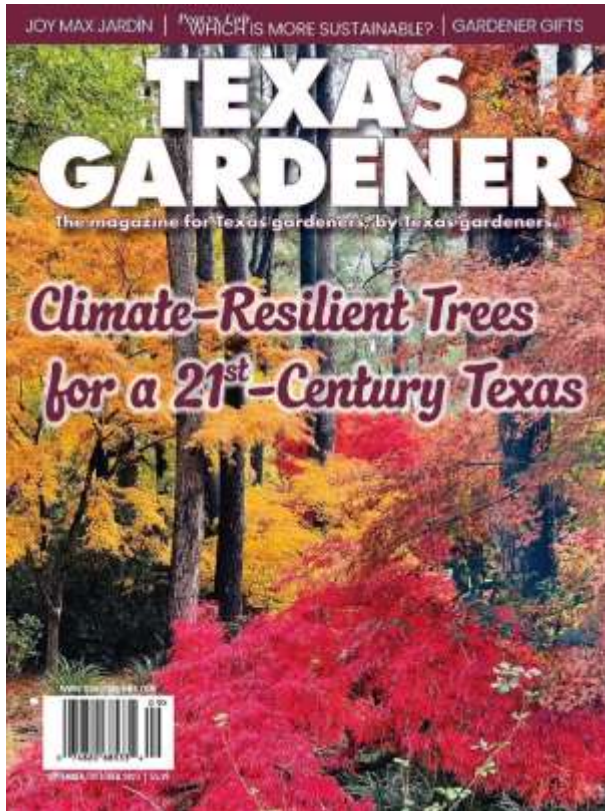


Dr. Tim Hartmann and Graduate Student Katy Davidson (Texas Agrilife) at SFA Gardens utilizing an old Feijoa in a cutting propagation study.



Drone image of the fig collection, SFA intramural field.

## MAPLES ARE MAKING A MARK AT SFA GARDENS



After 35 plus years, the maple collection at SFA Gardens remains as one of the best in the Gulf South. While *Acer palmatum*, Japanese maple dominates, other species of *Acer*, many rarely encountered, are also present. The show is in the spring (usually early April) and in the fall (usually around the first week in December. That can vary a week or two. Follow SFA Gardens FB for best times.



## SPECIAL PLANTS MAKING THEIR MARK



From upper left, clockwise: *Gardenia jasminoides* 'Whispering Pines', *Acer skutchii* in a Georgia landscape, Devin Stage collecting Skutch maple seed, Dr. King and Jonathan Judice with SFA's *Taxodium distichum* 'LaNana' at Twinwood, and, finally, *Taxodium* 'Little Guy' at the Gayla Mize.



From upper left, clockwise: *Callicarpa americana* "Welch's Pink", *Parrotia subaequalis*, *Lagerstroemia faurei* 'Bayou View', X *Gordilinia*, *Taxodium 502* in Bossier, Louisiana, at the Red River Wildlife Refuge



From top left, clockwise: 1) seedling selection of *Hydrangea quercifolia* 'Lowrey'; 2) *Illicium floridanum* varieties; 3) *Illicium mexicanum*; 4) kiosk in the Ruby Mize; 5) one of our many deciduous azalea varieties



A giant burgundy foliated Pennisetum in the trialing garden returns from ground every year, no seedlings so far.



Twinwood Nursery promotion of the kneeless bald cypress, *Taxodium distichum* 'LaNana'. This clone is cutting grown, a cross of Montezuma X Baldcypress, via a long-term collaboration with the Nanjing Forestry University, Nanjing, CN.



## THE TRIALING GARDEN AT COLORADO STATE UNIVERSITY.

As the result of a CARRI grant, described earlier, SFA Gardens is about to embark on the creation of an annuals trialing program at the CARRI Center on Stallings Drive. A role model for trialing programs is at Colorado State University. The work of Dr. Jim Klett includes about 1000 varieties of a wide range of annuals and perennials each year. Companies that produce the varieties and pay. At a field day, attendees pick their favorite variety by QR code and the final report includes performance data. The Trial Garden receives no direct state or public funding. The garden also receives donations from industry associations, foundations, nurseries, plant producers and other companies in the green industry.





<https://agsci.source.colostate.edu/csu-announces-annual-flower-trial-gardens-2022-winning-flowers/>

CSU's Flower Trial Garden, which draws thousands of visitors each year, relies on student gardeners, volunteers and industry supporters and experts who help provide detailed analysis of plant performance. Colorado State Extension Master Gardeners play an essential role in planting and maintenance of the garden. The outcome of this research is valuable to the industry and home gardeners alike. That's because the Rocky Mountain region has unique growing conditions, characterized by high altitude, intense solar radiation, drying winds, severe hailstorms, large fluctuations between day and night temperatures and a season-long need for irrigation.

## CENTER FOR APPLIED RURAL RESEARCH AND INNOVATION (CARRI)



A new Urban Tree and Shrub Center (UTSRC) research project is underway via grant funding (Center for Applied Rural Research and Innovation, CARRI) at the SFA property on Stallings Drive, Nacogdoches, TX