

SFA GARDENS ANNUAL REPORT

JAN – DEC 2019



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



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INTRODUCTION

SFA Gardens continues as a recognized center within Stephen F. Austin State University, Nacogdoches, Texas, USA. The 133 acres of gardens are a multi-faceted development within SFA's Arthur Temple College of Forestry and Agriculture and on the SFA campus:

- 1) 8 acres, Mast Arboretum
- 2) 1 acre, Jim and Beth Kingham Children's Garden
- 3) 8 acres, Ruby M. Mize Azalea Garden
- 4) 8 acres, Gayla Mize Garden
- 5) 42 acres, Pineywoods Native Plant Center and Jimmy Hinds Park
- 6) 6 acres of the LaNana creek corridor
- 7) 60 acres, SFA's Recreational Trails and Gardens

The SFA Gardens are directed by Dr. David Creech (1/2 time) and seven staff (6.25 time), both professional and classified. This report documents activities January 1, 2019 - December 31, 2019.



In addition to the on-campus gardens, SFA Gardens is also the umbrella for projects at the SFASU's Science Research Center and collaborations with the City of Nacogdoches park system. In addition, SFA Gardens is responsible for several regional outreach efforts including a research project at Moody Gardens, collaborations

with Texas nurseries and landscape design firms and a Texas Department of Agriculture grant that supports a golden kiwifruit evaluation project, an effort that includes six Kiwifruit cooperators and exciting new genetics.

A “Friends of SFA Gardens” group with about 112 members and the SFA Gardens Advisory Board, which meets quarterly, provide community and university support. In 2019, the SFA Gardens Environmental Education volunteers generated 2024 hours = \$49,871.00. The SFA Gardens Volunteer Corps generated 1304 hours’ worth \$32,131 with most of the time spent growing and managing the two plant sales per year and garden maintenance. Thus, the total volunteer hours for the SFA Gardens in 2019 was 3328 hrs., which set a record total: \$82,002 in value. While State of Texas funding is a significant portion of the SFA Gardens budget, the gardens have benefitted from seven endowments, memberships, gifts, a robust plant sale, contract grow projects, research grants, workshops and seminars.

GARDEN COLLECTIONS

What separates SFA Gardens from so many university gardens is the scale of work with numerous taxa. The plant collection at the SFA Gardens is a treasure trove of interesting plants. Certain genera stand out in the woody plant arena. 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 best in the nation. Our work with Mexico oaks and other western species is appreciated 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. The reason for the success of the SFA Gardens is simple. We have a long history of connecting and sharing plant materials with arboreta and botanical Gardens across the nation, with other academic institutions, nurserymen and plant enthusiasts.

ENVIRONMENTAL EDUCATION

In 2019, the SFA Gardens Environmental Education program reached over 11,000 in a broad spectrum of programs for ages K-adult. The success of the program is no doubt based on the Coordinator of the program, Elyce Rodewald. Elyce has been in this position for nearly 20 years and will be retiring in 2020. What separates Elyce from the rest is rather simple. She truly enjoys her craft and brings great talents to any workplace. Along the way, her skills at winning competitive grants and creating successful collaborations at the University and with state agencies has allowed this program to make a regional impact. Replacing Elyce is the major challenge to our program in 2020.

The centerpiece of the SFA Gardens Environmental Education program is the Ina Brundrett Conservation Education Building at the Pineywoods Native Plant Center. The building was dedicated at the PNPC in 2014 after a successful campaign to raise about one million dollars. In the past year, we have added additional outdoor lighting to facilitate parking and visitor access during the evening programs. In the past twelve months, the Ina Brundrett Conservation Education Building has been the central location for 77 events, meetings, workshops, seminars and the Les Reeves Lecture series. Anne Sullivan handles the event manager details of this resource. Equally important, the building is a great teaching example of environmentally sensitive methods of construction and operation. In this past year, the solar panel array via a Green Mountain Energy grant provided about 81% of the annual energy needs of the facility.

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. The property was a gift to SFASU. The Jimmy Hinds Park, again received funding in the past year from Barbara Finney, the daughter of the late Jimmy Hinds, the first Agriculture Professor at SFA. A fine muscadine vineyard includes over 60 varieties and in the past year a Kiwifruit nursery was added. 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'. In the coming year, new plantings are planned to capitalize on the sunlight and rich bottomland soils of this special spot along LaNana creek that rarely floods.

MOODY GARDENS PROJECT

The Moody Foundation funded the Moody Gardens project on Galveston Island originally in 2016 for a three-year period. A resubmission for another 3 years was declined. However, a request by the Director of Horticulture at Moody Gardens, Mr. John Zendt, for a meeting led to the submission of a modified proposal, and we have just learned we are there for another three years. The research project involves about two acres of nursery near the Offatt Bayou and is challenged by aerial and soil salt issues and wind. Still, the plots are yielding all kinds of surprises in terms of species performance, some growing vigorously while others have succumbed to the salt challenge.

KIWIFRUIT EVALUATION PROJECT

A Texas Department of Agriculture Specialty Crop Block grant has funded a kiwifruit project for the last four years. Our fourth year proposal was approved in 2019 which means the project is solid until June 2021. We are cooperating with Tim Hartmann, Texas Agrilife Programs Specialist, College Station, Texas, on this project. The first kiwifruit, green or golden, ever produced in Texas was in 2014 at the SFA Gardens

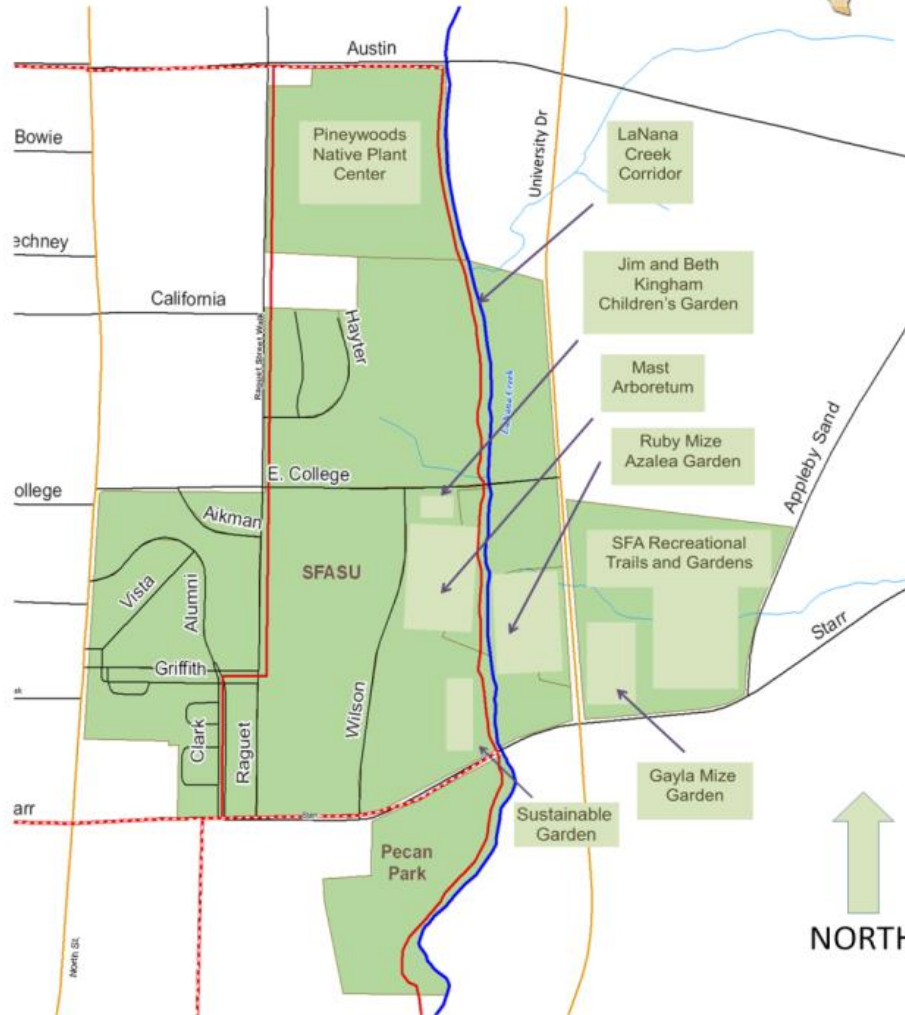
research plot. Since then, we have experienced four good years of production out of six. Quality is excellent, pests are not an issue now and vine vigor has been exceptional. Still, there remain numerous horticultural challenges to overcome (primarily, variety selection, pollination issues, hard freezes on young plants and issues associated with chilling requirement). With funding in place until May 2021, and six farmer cooperators working with the project we are confident that we can determine the economic viability of this interesting fruit crop.

MICKEY ELLIOTT FAMILY FOUNDATION GIFT

In 2019, we received word that the Micky Elliott Family Foundation had awarded the SFA Gardens a gift that will allow the gardens to move to the next level. We will be hiring two-on the ground staff dedicated to landscape maintenance (planting, mulching, fertilizing, pruning, pest management and irrigation). This gift will be ongoing based on our deliverables. This is an epic step forward for the SFA Gardens.

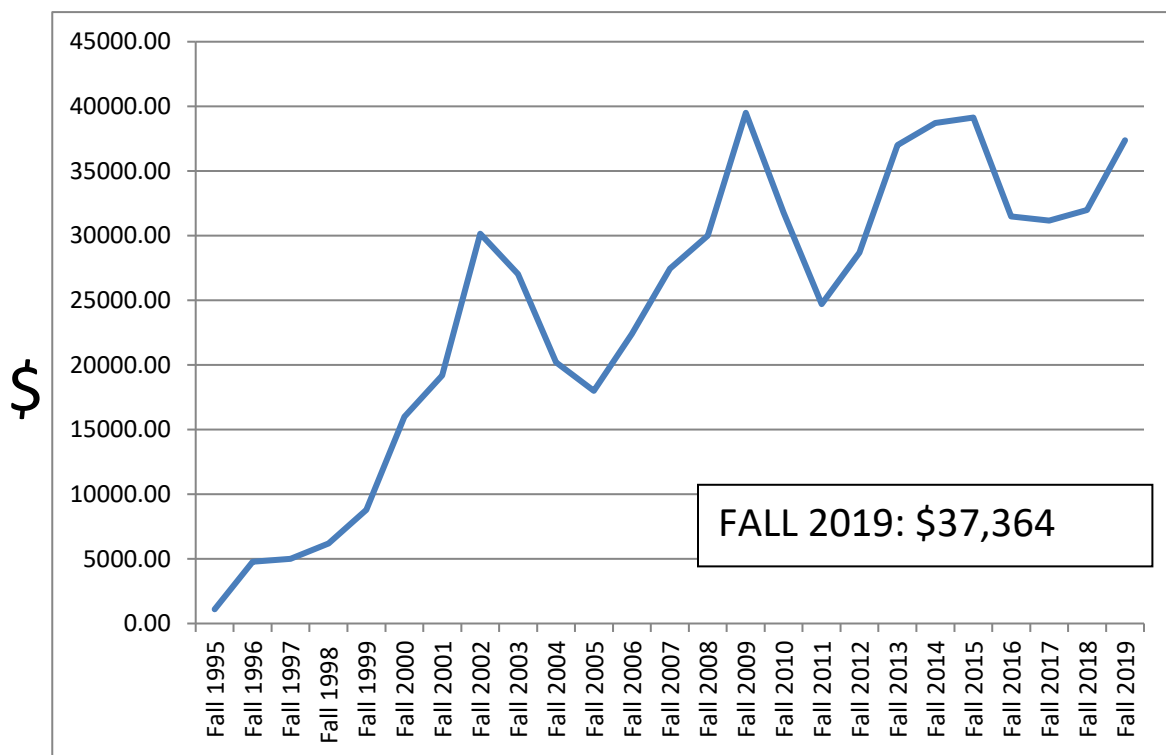
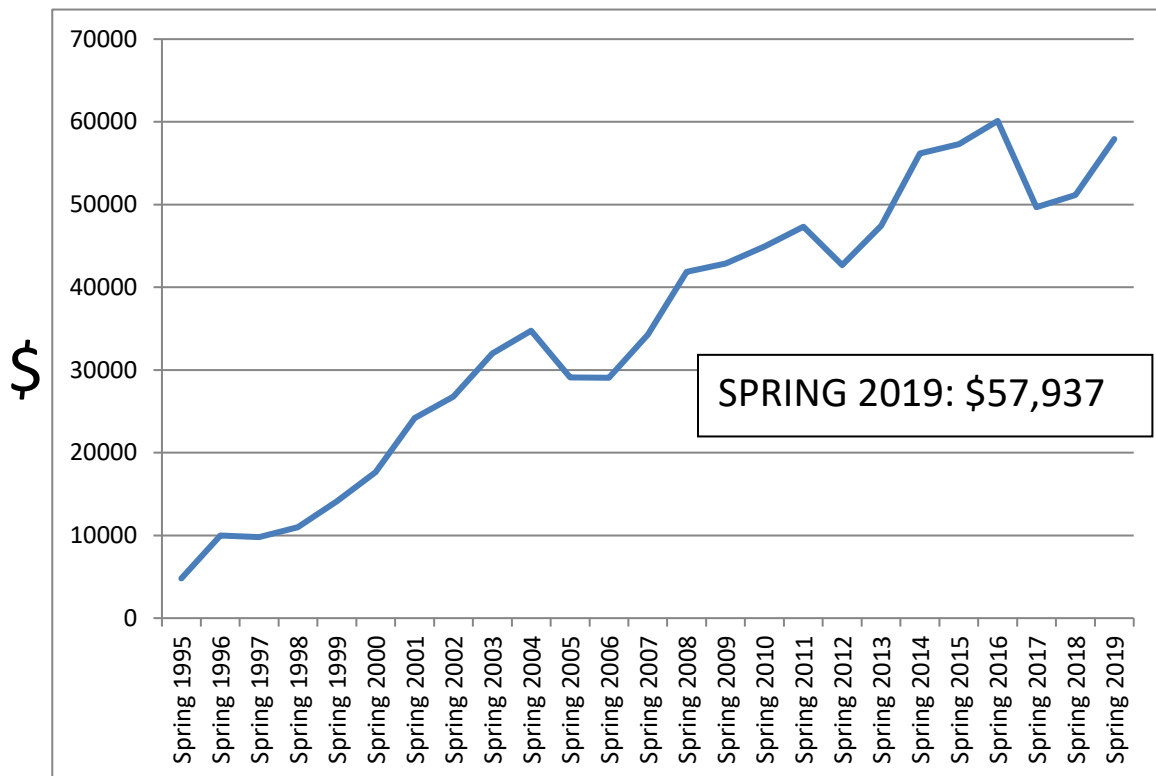


ARTHUR TEMPLE COLLEGE OF FORESTRY AND AGRICULTURE
Stephen F. Austin State University
Nacogdoches, Texas



LaNana and Banita Creek Trail System		Date: July 25, 2013
<p>CASTILAW ENVIRONMENTAL SERVICES, LLC NACOGDOCHES, TEXAS 75701-0001 NACOGDOCHES, TEXAS 75701-0001</p>	<p align="center">City of Nacogdoches Nacogdoches County, Texas</p> <p>Created By: Neil Boitnott, Austin Russell, & Adam Miller</p>	<p>Trail System</p> <p>Existing - 5.4 Miles</p> <p>Proposed - 2.7 Miles</p> <p>Areas of Interest</p>
		<p>Highways</p> <p>Streets</p> <p>Major Creeks</p> <p>Minor Creeks</p>

SFA GARDENS SPRING AND FALL PLANT SALES



2019 THERESA AND LES REEVES LECTURE SERIES

The Theresa and Les Reeves Lecture Series is held at the Ina Brundrett Conservation Education Building at the Pineywoods Native Plant Center, 2900 Raguet Street, Nacogdoches, TX 75965. There's a social at 6:30 PM. The lecture is at 7 PM. Lectures are 45 - 50 minutes. A quick plant raffle follows the lecture. There's a short plant raffle after. Parking is available at the Pineywoods Native Plant Center and Raguet Elementary.

JAN 10 2019 Jay White, Editor of Texas Gardener, Brenham, Texas. "Home Garden Trends - Average Gardeners, Mean Vegetables and Distributed Benefits".

FEB 14 2019 Linda Gay, ArborGate and Horticultural Consultant, Tomball, TX. "Climbers, Twisters and Viners - Using Vertical Space".

MAR 14 2019 Joy Columbus, Director of Horticulture, Houston Botanical Garden, Houston, Texas. "A walk through the Houston Botanic Garden: The Global Garden Revealed".

APR 11 2019 - Daniel Cunningham, Extension Specialist, TAMU, Dallas, Texas. "Eat the Yard: A Guide to Edible Landscape Plants"

MAY 9 2019 Marc Pastorek, Prairie Activist and Horticulturist, Covington, LA. "The Prairie Inspired Garden – Fun with Seed!"

JUN 13 2019 Allen Owings, Horticultural Consultant, Hammond, LA. "Crimes Against Horticulture – Common Improper Practices".

JUL 11 2019 Jonathan Judice, Environmental Design, Tomball, TX. "Tips and Tricks for Planting the Right Tree in the Right Way in the Right Spot."

AUG 8 2019 Jordan Cunningham, Greenhouse Technician, SFA Gardens, Nacogdoches, TX. "The Life and Times of a Nursery Worker: Propagation, Production and Morale."

SEP 12 2019 Heather Thormahlen, Territory Manager, Treetown USA, Houston, TX. "Nature's Bounty for Home and Business – Using Natural Vegetation for Wreaths, Garlands and Table Decorations."

OCT 10 2019 Jocelyn Moore, Environmental Education, SFA Gardens, Nacogdoches, TX. "Changing Young Lives, One Garden Bud at a Time – Environmental Education for our Youngest Citizens."

NOV 14 2019 Jeb Fields, LSU Gardens, Hammond, LA – "Gardening in the Deep South the Cajun Way – Observations from Plant Trials".

DEC 12 2019 - Dave Creech, Director, SFA Gardens, Nacogdoches, TX.

'Reconnaissance in the Pursuit of Knowledge is Seldom Wasted – New Plants for a 21st Century East Texas.'

GARDEN SEMINARS AND WORKSHOPS

Jan. 26: Fourth Annual Nacogdoches Seed Swap

Join us and bring viable flower, herb, vegetable and tree seeds, whether your own or purchased at a nursery, from 1 to 4 p.m. The cost is free, but donations to Nacogdoches Naturally, SFA Gardens' afterschool program are appreciated.

Feb. 9: Gifts from the Garden — Creating Personal Care Products

Join Dr. Jodi and Duke Pittman from Pittman Farms in Garrison to learn the best techniques for creating personal care products from natural materials. The cost is \$25 for SFA Gardens members and \$35 for non-members.

March 9: Flower Power — Introduction to Floral Design

Join Jordan Cunningham, SFA Gardens greenhouse technician, as she explores the basic principles of floral design. Use your new knowledge to create a beautiful flower arrangement to take home. The seminar costs \$25 for SFA Gardens members and \$35 for non-members.

May 11: Photographing Flowers

Join Dr. Tom Willis, award-winning member of the Nacogdoches Photography Club, to learn the basics of photographing flowers and editing your images. Digital cameras will be available to borrow, or you can bring your own cell phone or digital camera. Plan to practice your skills with cut flowers and blooms in nature at the SFA Pinewoods Native Plant Center. The cost is \$25 for SFA Gardens members and \$35 for non-members.

June 22: Propagation

Join Dawn Stover, SFA Gardens research associate, to learn the secrets of successfully starting your garden plants from seeds and cuttings. The cost is \$25 for SFA Gardens members and \$30 for non-members.

Sept. 21: Decorating with Succulents

Join Ashton Sorrels, owner of Love Succs, to create your own living succulent wreath to take home. The cost is \$40 for SFA Gardens members and \$50 for non-members.

Dec. 7: Deck the Halls — Creating Evergreen Decorations for the Holidays

Join Dawn Stover, SFA Gardens research associate, to discover how to create elegant wreaths and garlands using materials from Mother Nature. Learn principles of wreath, garland and centerpiece construction, and make a wreath to enjoy at home during the

holidays. This event costs \$30 for SFA Gardens members and \$40 for non-members.

FAMILY ACTIVITIES IN 2019

Feb. 16: Great Backyard Bird Count and Bird Day

Celebrate birds and help count birds for science with assistance from the Pineywoods Audubon Society, Texas Parks and Wildlife Department, and SFA forestry students from 9 a.m. to noon at the PNPC. During this free event, you can learn about our feathered friends and how we can create wildlife habitats for them with hands-on activities, including using binoculars, practicing bird identification skills, participating in a bird olympics and creating bird-related crafts.

March 30: Little Princess Tea Party

Join charming butterfly fairies for a delightful party with treats, music and merriment among the enchanting pines and azaleas at either 10 a.m. or 12:30 p.m. in the Ruby M. Mize Azalea Garden. Wear your favorite princess or fairy apparel, and enjoy a magical day in the garden. This event is recommended for princesses ages 3 to 10 accompanied by an adult. Tickets cost \$35 per person and can be reserved online at sfagardens.sfasu.edu beginning Feb. 1. For more information, contact SFA Gardens at (936) 468-1832 or sfagardens@sfasu.edu.

April 27: Breakfast on the Farm

Join SFA agriculture students for pancakes and sausage at SFA's Walter C. Todd Agricultural Research Center. During this free event, you can meet the animals, take a hayride, explore and learn about agriculture through hands-on activities from 9 a.m. to noon. Contact the agriculture office for your free ticket at (936) 468-3705.

Oct. 12: Winter Gardening from Seed to Table

Learn the basics of growing, harvesting and eating winter vegetables from 10 a.m. to 1 p.m. in the Brundrett Conservation Education Building, 2900 Raguet St. Sample new recipes and choose your favorites to prepare at home. There will be activities for adults and children. A \$10 donation per family is suggested.

SFA GARDENS EDUCATION NUMBERS

	2001 - 2002	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017*	2018	2019
Adult Programs																		
Arboretum/Azalea Garden/PNPC																		
Tours	744	744	768	1334	1214	1343	863	1244	1499	908	480	1278	912	690	599	346	134	521
Les Reeves Lecture Series	980	860	709	823	922	751	824	789	811	780	802	809	982	820	788	921	619	535
Garden Seminars	83	158	184	175	32	45	57	65	32	145	396	142	206	178	115	216	116	91
Educator Workshops	24	186	23	121	183	225	455	110	160	30	43	88	0	147	60	18	185	145
Volunteer Training	25	35	13	45	29	11	30	18	10	8	12	26	11	0	2	5	1	36
Adult Special Events	1285	1927	1070	1508	1200	3281	1862	1350	1020	987	300	254	0	88	150	555	202	111
Lectures-outreach							3179	4232	2905	2388	3437	4738	5169	6189	2000	2150	2603	1560
Sub-total	3141	3910	2767	4006	3580	5656	7270	7808	6437	5246	5450	7335	7280	8112	3714	4211	3860	2999
Children's Programs																		
Arboretum Adventures	917	546	820	733	1048	1120	771	1162	1377	784	546	514	588	543	626	611	763	663
Trees Are Terrific	2320	1246	962	622	1784	1750	2072	1795	552	921	717	0	0	0	0	0	0	0
Forest Awareness						450	600	1050	1200	1900	535	613	600	571	415	534	546	560
GardenQuest	398	644	381	0	525	182	316	80	320	175	0	28	120	130	182	0	0	250
Go Wild	174	690	924	549	711	772	803	752	549	540	499	473	495	521	538	742	534	551
Wild About Science (Go Native Field Day)	0	0	250	300	594	594	508	351	483	479	525	452	446	455	425	931	888	676
Earth Science Exploration						475	475	612	1076	869	796	447	462	520	557	852	648	485
School Gardening	66	0	0	0	0	0	0	120	0	0	0	473	495	0	0	0	89	0
Bugs, Bees, Butterflies and Blossoms	500	1000	2025	2640	2574	2816	2800	2477	3292	3292	3301	3523	3279	3395	3553	3500	2225	2553
Phreywoods Day Camps	26	26	36	58	63	67	74	77	77	83	87	87	91	92	82	77	82	95
Children's Special Activities	571	1056	1538	1756	2004	200	350	800	882	115	804	2120	1902	1023	500	667	841	675
Wild About Wetlands	0	0	0	87	154	395	111	46	19	28	27	30	100	106	88	88	0	0
Nacogdoches Naturally-Family Day								193	520	500	893	1753	1888	1040	424	864	366	414
CDE (Career Development Education)						700	686	511	704	772	897	845	700	800	996	784	1406	476
Nacogdoches Naturally-After school									503	495	648	1138	938	916	347	517	376	604
Sub-total	4972	5208	6936	6745	9457	9521	9566	10349	10739	10953	10275	12496	12104	10112	8733	10167	8764	8002
Total	8113	9118	9703	10751	13037	15177	16836	18157	17176	16199	15725	19831	19384	18224	12447	14378	12624	11001
2001-2016: Data shown is from September through August each year.																		
*Sept 2016-December 2017																		
2018-2019: calendar year																		

In 2019, over 11,000 citizens participated in the educational programming activities of SFA Gardens.

STATUS OF GOALS SET FOR 2019

DAVE CREECH:

Moody Gardens Proposal Submission - ACCOMPLISHED, WAITING ON WORD

Construct a shade house at PNPC – NOT ACCOMPLISHED

Associated with above, construct rat-proof cold frames for seedling production from acorns/woody seed and for liner protection. 300 square feet goal. - NOT ACCOMPLISHED

Move small portable building at the Ruby Mize Garden to the PNPC. NOT ACCOMPLISHED

Deer proofing the blueberry patch, JH Park, and Kiwi orchard on Starr Avenue. Hog proofing? IN PROGRESS

Plant SRC to a woody tree crop using one to five gallon material. NOT ACCOMPLISHED, WAITING ON LAST TREES TO BE MOVED.

Elking Environment Renovation in the SFA Mast Arboretum – IN PROGRESS

More sunlight to the blueberry research plot. IN PROGRESS

More sunlight to the Ruby Mize Garden. IMPROVED

Bring the Cub tractor back to former glory NOT ACCOMPLISHED

Rework GM Garden to shrub riser placed to capture most of the plant material. Rework the valve boxes so we can have a riser with hose that we can use if needed. NOT ACCOMPLISHED

Plant JH Park to dogwoods and redbuds utilizing a slightly raised berm strategy for this bottomland. CHANGE OF DIRECTION

Create a rare and endangered plant “trail” along Sara’s branch with signage utilizing Montgomery fund. NOT ACCOMPLISHED

DAWN STOVER:

Travel and network more.

Improve record keeping for contract-grow projects.

Continue to source local ecotypes of native plants.

Improve trial garden.

Begin to pull together propagation data – maybe begin writing a guide?

Explore restoring Pineywoods Nacogdoches/Lufkin chapter of the Native Plant Society of Texas.

JORDAN CUNNINGHAM

Construct a cold frame for over wintering area for acorns and other woody seeds. NOT ACCOMPLISHED

Improve irrigation efficiency. The outdoor nursery pad is now able to best take advantage of our two different watering zones. IN PROGRESS.

Plant a new landscape at the South entrance for the Native Plant Center. NOT ACCOMPLISHED.

New design for the front yard beds of the Tucker House. IN PROGRESS.

ANNE SULLIVAN:

Continue to promote the SFA Gardens as a wedding and event venue for the University and community and as an income source for SFA Gardens Education Programs. This past year saw the development of a wedding brochure which was distributed throughout the campus and community. ACCOMPLISHED

Participate in SFA's Showcase Saturdays with information on the gardens, weddings and other opportunities for students coming to SFA. NOT ACCOMPLISHED

Adding additional outdoor lighting (acorn lights) continues to be a goal of this position for the enhancement and safety of evening events held at the Brundrett building and PNPC. This improvement will help facilitate the use of after school and evening parking resources available at Raguet Elementary, adjacent to the PNPC. ACCOMPLISHED

Facilitate repairs needed inside the Brundrett Conservation Education building. ACCOMPLISHED

ELYCE RODEWALD:

Apply for TPWD COOP grant to support summer camp program – ACCOMPLISHED

Renew NASP, angler education and TEEAC certification – ACCOMPLISHED

Develop plan for natural playscape, Children's Garden, Petrified wood amphitheater. NOT ACCOMPLISHED.

Investigate/improve acoustics in Ina Brundrett Building. DONE – FUNDING NOT AVAILABLE AT THIS TIME.

Update signage at Pinewoods Native Plant Center, Mast Arboretum and Ruby M. Mize Garden IN PROGRESS

Update garden brochures IN PROGRESS

JOCELYN MOORE:

Improve volunteer sign-in logs for tracking volunteer hours. – DONE BUT NEEDS IMPROVEMENT

Offer teaching opportunities for SFA Junior and Senior students in any of the departments of Forestry, Education, Hospitality, and/or Nutrition. –DONE, EDUCATION, FORESTRY, NUTRITION, AND SOCIAL WORK STUDENTS HAVE MET THEIR SERVICE HOUR REQUIREMENTS

Provide monthly trainings to Nacogdoches Naturally for ongoing professional development (First Aid, photography, mental health/suicide awareness, Aldo Leopold/Sharing Nature with Children philosophies, Nutrition: In Defense of Food Screening) – DONE (AND ONGOING)

Recruit Hospitality and Forestry/Horticulture staff for hiring in August 2019 –DONE, 1 FORESTRY RECRUITED AND HIRED, ADDITIONALLY 2 QUALITY COMMUNICATIONS STUDENTS

Retain current freshman and sophomore Nacogdoches Naturally staff for 2019-2020 school year. – LOST 2 STUDENTS DUE TO COLLEGE TRANSFER

Receive training to better understand the Environmental Education budgets, use of banner, and grant writing. – DONE

Share a minimum of 12 Facebook posts highlighting our family days, afterschool programming, Pinewoods Summer Camps, and SFA college student involvement throughout 2019. – NOT DONE DUE TO HESITANCY OF POSTING KIDS' FACES, BUT SENT INTERNAL EMAILS HIGHLIGHTING PROGRAMS WITH YOUTH WITH SFA STUDENT VOLUNTEERS

Complete infrastructure design and implement needs for playscape. – PROJECT ON HOLD UNTIL PLANS ARE REASSESSED FOR A CHILDREN'S LEARNING GARDEN IN A BETTER SUITED LOCATION

DUKE PITTMANN:

Primary emphasis on taking maintenance up a notch in the Ruby Mize and Gayla Mize Gardens. WORK IN PROGRESS

More efficient mulch teams. WORK IN PROGRESS

Renovate the face of the Gayla Mize Garden with more color. NOT ACCOMPLISHED

Drainage improved in the Gayla Mize Garden. Precision placement of some new berms. WORK IN PROGRESS

Plant more of the Gayla Mize Garden wetland to Hibiscus dasycalyx. NOT ACCOMPLISHED.

Rework the Gayla Mize Garden irrigation system. WORK IN PROGRESS

Renovate the Ruby Mize Garden irrigation system to have live hoses available for the council ring. WORK IN PROGRESS

Renovate the Ruby Mize council ring. ACCOMPLISHED

Ruby Mize Garden, South side, cutting back the Magnolia screen to 6' and removing all side limbs. ACCOMPLISHED

Ruby Mize Garden tunnel of weeping bald. Cutting out all the steel superstructure. ACCOMPLISHED

Remove and store all poly drip pipe on LaNana creek. WORK IN PROGRESS

MALCOLM TURNER:

Fruit plots protected from deer and hog attacks with a new fence. NOT ACCOMPLISHED

Work with five Kiwifruit Research Project cooperators to establish plantings utilizing 'Bruno' rootstocks grown at SFA Gardens ACCOMPLISHED

Expand kiwifruit research plot with new rows on east side of our oldest plantings on Starr Avenue. FIVE NEW ROWS

By Mar/April 2019 – Insure that our Moody research plots in excellent shape for our exit from that project. DONE

GOALS FOR 2020

DAVE CREECH

Number one goal: Securing an endowment for the Pineywoods Native Plant Center, a 2.5 million dollar naming opportunity.

Construct a shade house at PNPC

Associated with above, construct rat-proof cold frames for seedling production from acorns/woody seed and for liner protection. 300 square feet goal.

Not accomplished last year, move small portable building at Ruby Mize Garden to PNPC.

Deer proofing the blueberry patch, JH Park, and Kiwi orchard on Starr Avenue. Hog proofing?

Antique grain drill moved into landscape as a sculpture.

Clean up and Plant SRC to a woody tree crop using one to five gallon material.

More sunlight to the blueberry research plot.

More sunlight to the Ruby Mize Garden.

Bring the Cub tractor back to former glory

Rework GM Garden to shrub risers placed to capture most of the plant material.

Rework the valve boxes so we can have a riser with hose that we can use if needed.

Plant JH Park to dogwoods and redbuds utilizing a slightly raised berm strategy for this bottomland.

Create a rare and endangered plant "trail" along Sara's branch with signage utilizing Montgomery fund.

DAWN STOVER:

Purchase John Deere Gator

Hire two individuals for new FT positions

Finish signage for the Elisabeth Montgomery Rare and Endangered Plants Collection

Organize ongoing volunteer recruiting opportunities

Become more efficient with monthly email blasts

Implement new design in entrance beds at the PNPC

JORDAN CUNNINGHAM

Get at least one new gator to increase productivity

Put new polycarbonate on the small greenhouse (we named it Merriweather)

Work with Dawn to implement a new landscape design for the entrance for the Native Plant Center

Assist in the hiring of two new staff members

Plant more herbs in the herb garden

Create a system to better keep track of our germination rates and successful cutting trials

Find a better system for the management of our shade plants

Post to SFA Gardens social media outlets monthly

Find a way to count how many guests visit our gardens daily

ELYCE RODEWALD

Transition smoothly to full retirement. Assist with a new hire for my position.

JOCELYN MOORE

Submit "Best Practices for Sustaining Environmental Education" research to undergraduate research competition.

Resume partnership (upon completion of TPWD grant 6/2020) with AgriLife to provide support for teaching students and NISD teachers about gardening and nutrition.

Streamline the registration processes for summer camps: create online registration form.

Create an Environmental Education Friends Group with a diverse group of parents, highest quality student workers, and field trip volunteers to help support program development and fundraising.

Find communications intern (or qualified student worker) to help with social media.

Survive Elyce's transition to retirement and make it to 2021.

Budget goals:

Apply for minigrant with the SFA Green Fund for student worker/intern position for summer camp and afterschool program.

Continue to recruit quality work-study students early in the year and continue to hire exclusively work-study (results in a savings of \$34,000 per year).

Create a charge for afterschool program and offer scholarships for Boys and Girls' Club members.

Develop family-friendly fundraising event ("Pinecraft" in the Gayla Mize?)

Cultivate relationships with potential partners, stakeholders and donors to secure additional funding for programming.

Secure funding to increase assistant education coordinator hours to 40 hours per week.

MALCOLM TURNER

Assume responsibility for managing the maps, planting plans and databases of the fruit projects at SFA Gardens and our work at Moody Gardens.

Put up the fencing and gates around the blueberries.

Create deer proof fencing at Jimmy Hinds Park to encompass the kiwifruit nursery and muscadines.

Build a new kiwifruit drill stem trellising system at the Grounds/Transportation kiwis on the new rows by April 1 and plant. Once that is installed, study replacing the older structure with the new system.

Winter prune/train the old kiwi plants so the pergola system may be brought back into correct form. Install new bracing on the south end and run new wires down the rows.

Travel – TABGA in March? Boston in April to see the Public Garden on Beacon Street and run the 2020 Boston Marathon. New Zealand in July for winter pruning/training. Possibly Chile to visit kiwifruit industry as a guest of Miko Asia, Ltd, Auckland, NZ.

Return to Moody Gardens to continue trialing plants in a high salt air and groundwater environment.

Speak to Amy Chisholm's science classes at Nacogdoches High about kiwifruit. Offer kiwifruit presentations to local Texas Master Gardener groups.

ANNE SULLIVAN

Continue to promote SFA Gardens as a wedding and event venue for the University and community as an income source for SFA Gardens Outdoor Education Programs.

Coordinate work study students to set up and staff daytime and evening events for better time management of staff.

Continue to build and improve positive relationships with university and community contacts to promote the use of the Brundrett Building.

Seek sources of income to provide additional outdoor lighting (acorn lights) to improve the safety and for the enhancement of evening events held at the Brundrett Conservation Education Building.

Continue to serve as a support for other staff members with their events and activities as they arise.

Continue to reach out and seek new members for SFA Gardens from the community and university.

Improve the content and aesthetics of the SFA Gardens Newsletter.

Become better acquainted and more proficient with the accounting system (Banner) for SFA Gardens accounts by meeting with the Agriculture Accountant and attending any workshops offered.

STAFF ANNUAL REPORTS

DAVID CREECH, Director

INTERNATIONAL:

March 12-27, 2019. Trip to Chile with Miko Asia, Ltd, Auckland, NZ as my host. Tour the kiwifruit industry near Santiago where Miko Asia has several joint ventures for export of fruit to Japan Pacific Rim countries.

Publications, Presentations and Activities

Creech, David. January 30, 2019. New and Exciting in Horticulture. An oral presentation to the Gulf South Horticultural Expo, Mobile, Alabama. 110 in audience.

Tim Hartmann*, Larry Stein, Fred Davies, Sam Feagley, David Creech and Justin Scheiner. February 2, 2019. Response of Field-Grown Kiwifruit (*Actinidia chinensis* Planch. and *A. deliciosa* A. Chev.) Plants to Soil Alkalinity. Tim Hartmann oral presentation at the American Society for Horticultural Science Southern Region, Birmingham, Alabama. 25 in audience.

David Creech^{1*}, Malcolm Turner¹, Steve Wagner², Josephine Taylor², and Kenneth Farrish³. **A Synopsis of Three Years of Tree Research at Moody Gardens, Galveston Island, Texas.**

¹ Department of Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962, ²Biology Department, Stephen F Austin State University, Nacogdoches, TX 75962, ³Division of Environmental Science, Stephen F. Austin State University, Nacogdoches, TX 75962. Oral presentation at the American Society for Horticultural Science Southern Region, Birmingham, Alabama. 20 in audience.

Tim Hartmann*, Larry Stein, Fred Davies, Sam Feagley, David Creech and Justin Scheiner. 2019. Response of Field-grown Kiwifruit (*Actinidia chinensis* Planch. And *A. deliciosa* A. Chev.) Plants to Soil Alkalinity. Texas A & M University Horticulture colleagues, an oral presentation by Tim Hartmann at the American Society for Horticultural Science Southern Region, Birmingham, Alabama. 40 in audience.



David Creech. February 1, 2019. I presented the Texas small fruit status report at the all-day Fruit Working Group session at the American Society for Horticultural Science Southern Region, Birmingham, Alabama. 25 in audience.

Creech, David. Jan/Feb 2019. Is there Life Beyond Japanese Maples? **TNLA Green** 22 (1): 46-47.

Creech, David. Feb 9-14, 2019. Coordinated the visit of Ross Stevenson and Murray Malone, Miko Asia, Ltd., Auckland, NZ, and Flippe Hansen.

Creech, David. Feb 14, 2019. The Natives are Restless: Best Native Plants for Texas Landscapes. Montgomery county Master Gardener Training, Conroe, TX. 110 in audience.

March 12 – 26, 2019. Dave Creech to Chile to view kiwifruit production during the southern hemisphere production. Visited seven farms and two packaging, processing factories. Guest of Miko Asia, Ltd., Auckland, NZ.

March 28, 2019. Busload of Houston Retired Taiwanese Club to tour the Mast Arboretum and Ruby Mize Azalea Garden, 42 participants

March 28, 2019. Harris county Master Gardener tour of azalea garden. 39

April 1, 2019. SFA Gardens received Pine Log Readership award for “Best Place to Walk and Jog” in Nacogdoches.

April 3, 2019. Tour for the Lakewood Garden Club 21

April 3, 2019. Tour for the Bilbery group from the Midland, Texas area. 16

May 22, 2019. Tour of the Moody Gardens research plot. Dr. Pat Stephen Williams class of 61 SFA Forestry students. Total of 65 in audience.

June 1- 4, 2019. Rob Meizuizen, CEO of Top Fruit, Pretoria, South Africa here related to our Kiwifruit visit. Tour of our work, TAMU, Twinwood and discussions with cooperators.

Creech, David. 2019. Preparing for the Apocalypse: Blueberries, Muscadines, Figs, Kiwifruit and Other Alternative Fruits for the South. Presentation to the JCR Arboretum Plants Symposium, Raleigh, NC. 220 in attendance.

Creech, David. May/June 2019. Notes From the Director: Is Kiwifruit the Next Texas Gold? **TNLA Green** 22(3): 24-28.

Creech, David. 2019. Wild about Woodies conference at the PNPC. Four speakers and garden tours. June 28, 2019. 35 in attendance.

July 1, 2019. Board meeting, International Plant Propagators Society Southern Region. Tulsa, Oklahoma. 14 on IPPSSR board. Past President.

July 30, 2019. Tour of Galveston Island Moody Research Plots for the Annual State Conference of County Extension agents. 30 on tour and brief seminar.

Creech, David. 2019. New Plants for the Gulf South. Presentation at the Texas Nursery and Landscape Association annual conference and convention, San Antonio, Texas. 50 participants.

Creech, David. July/Aug 2019. Notes from SFA Gardens: Exotics vs. Natives in the Era of Fast Climate Change. TNLA Green 22 (4): 30,32.

Creech, David. 2019. Update on the Texas Department of Agriculture Specialty Crop Block Grant for studying the Potential of Kiwifruit in East Texas. Presentation to the NEDCO Board, Fredonia Hotel, Nacogdoches, TX. 30 participants.

Sept 20, 2019. Third annual Kiwifruit Conference and Field Day. Five speakers (Tim Hartmann, Dave Creech, Malcolm Turner, David Anderson, and Clint Wall). 45 participants.

Creech, David. Aug 9, 2019. Plant Premonition: Selecting Ornamental Plants in an Era of Rapid Climate Change. Presentation at the Growers Summit hosted by the Texas Nursery and Landscape Association at the Texas Farm Bureau Conference Center, Waco, Texas. 30 participants.

Sept 12, 2019. Presentation to NEDCO banquet on "Kiwifruit in East Texas – Opportunity or Headache?" Fredonia Hotel, Nacogdoches, Texas. 45 participants.

Oct 2, 2019. My mother Laverne H. Creech passed away at the age of 102.

Oct 5, 2019. Received the Charles L. Weddle Memorial Lifetime Achievement Award from the Native Plant Society of Texas. Annual meeting in Houston, Texas. Unable to attend because of my mother's death but accepted by a former student on my behalf and I was able to write a short thank you acceptance speech . .

Oct 11, 2019. Presentation at the annual Smith County Fruit and Vegetable Conference, "Alternative Fruits for East Texas." Tyler Convention Center, Tyler, Texas 85 participants.

November 2, 2019. Attended the Dedication of the Longview Botanical Garden, Longview, Texas.

Nov 13, 2019. Presentation, "Plant Premonition: Selecting Ornamentals in an Era of Rapid Climate Change." Brazos Texas Farm Bureau Center, Waco, Texas. 90 in attendance.

Dec 6, 2019. Presentation, "Climate Change Friendly Plants for South Carolina." Moore Farms Botanical Garden, Lake City, SC. 40 in attendance.

Dec 11, 2019. Presentation, "Diversity in the Genus Taxodium (Bald Cypress): Diseases, Insects, Soil Preferences and Landscape Performance". Texas Plant Protection Association, Brazos Valley Convention Center, College Station, TX. 35 in attendance. Following paper presented and abstracted in the TPPA Conference Proceedings, abstract 41, page 27.

DEC 12 2019 - Dave Creech, Director, SFA Gardens, Nacogdoches, TX.
'Reconnaissance in the Pursuit of Knowledge is Seldom Wasted – New Plants for a 21st Century East Texas.' 45 in attendance

DAWN STOVER, Research Associate

Student Greenhouse Workers:
Casity King, Peyton Button,
Sarah Weatherford and Summer
Pritchett

Volunteers: Sherrie Randall,
Charles Bradberry, David and
Linda Parish, Ken Braddock,
Barbara Blackwell, Brenda and
Harry Mansfield, Margie and
Jimmy Rodriguez, Peg Kern, Lil
McInniss, Joyce Adams, Don
Parsons, Don and Bonnie Orr,
Gerry Peacock, Mary Beth
Hagood, Carol Dowd, Dawnella
Rust, Tammy Alders, Daphne
Templin, JoAnn McDonald,
Christina Potter, John Witz, Linda
King, Carol Power and Tim and
Lynn Howell.

Student Garden Workers: Justin
Blakely, Devin Theisen, Cody
King, Abby Dixon, Cade Smith,



Cody Foster, Daniel Guidry, Nicholas Schiwitz, Nathan Durand, Kyle White, Ian Hein, John Cornett, Jacob Muggeridge

Community Partners: Garden Capital of Texas Committee, Keep Nacogdoches Beautiful, Winston 8 Ranch, Four Seasons Garden Club, Flora Garden Club, Pines Garden Club, Texas A&M Forest Service, City of Nacogdoches, Texas Parks and Wildlife, US Fish and Wildlife, NRCS East Texas Plant Materials Center, East Texas Natives Project

Training

Receipts and Deposits, T-Card Procedure Training, Motorized Utility Vehicle Training, Get Inclusive – Title IX Training, Ethics Online Training, EEO Laws and Discrimination Prevention, Security Basics

Professional Conferences: North American Prairie Association, International Plant Propagators Society – Southern Region, SFA Gardens Industry Day,

Professional Affiliations: Perennial Plant Association, Native Plant Society of Texas

Public Presentations and Outreach:

February 11, 2019: “An Overview of the SFA Gardens” presentation to Primetimers of First United Methodist, Nacogdoches

March 2, 2019: Host FFA Nursery/Landscape Career Development Event at Houston Livestock Show and Rodeo

March 12, 2019: Annuals and Perennials course for Cherokee, Houston and Angelina County Master Gardeners

March 26, 2019: Mast Arboretum Tour – Diboll Garden Club

March 28, 2019: Mast Arboretum Tour – Harrison County Master Gardeners

April 11, 2019 – Introduction to the SFA Gardens presentation – Leadership Nacogdoches

April 24, 2019 – Forest Understory Identification for forest landowner group, Roy E. Larsen Sandyland Sanctuary, Kountze, TX

April 25, 2019 – SFA Gardens Overview, presentation to SFA University Women’s Club

June 22, 2109 – Propagation Station – led workshop presented for SFA Gardens Saturday Seminars

September 17, 2019 – “For the Love of Natives” presentation given at Angelina County Agrilife Extension Office, Lufkin, TX

September 19, 2019 – “Designing with Natives” presentation given at Nacogdoches County Courthouse Annex

November 21, 2019 – “The Buzz about Bees” presentation to Gertrude Windsor Garden Club, Tyler, TX

December 10-11, 2019 – Shortleaf Pine Working Group understory identification. ID Fairchild State Forest, FRC site, Winston 8 Ranch, Boggy Slough

Accomplishments

Two successful plant sales

Wild About Woodies Industry Day

Continue to find successful protocols for germinating native plants

Continue to build native plant germplasm resources for local ecotypes

Recruitment of new volunteers

Expanded trial garden

JORDAN CUNNINGHAM

Presentations and Outreach

FFA Nursery/Landscape Career Development Event
Houston Livestock Show and Rodeo 150 students in attendance March 2, 2019

Plant walk for Bio blitz
SFA Gardens 12 in attendance March 8, 2019

Floral design class
SFA Gardens 19 in attendance March 9, 2019

SFA Garden community Planting Day
SFA Gardens 15 in attendance May 10, 2019

Propagation Production and Morale: The Life and Times of a Nursery Worker
SFA Gardens 20 in attendance August 8, 2019

Texas Arbor Day
Lanana Creek November 1, 2019

Conferences and Other Travel

International Plant Propagators Society Southern Region 2018 Conference October 12th through 16th

This Year's Accomplishments:

Successful spring and fall sales in 2019

Named the rows on the nursery pad for better organization

Priced plants before we moved them out to the sales yard for the fall sale improving efficiency

Successfully propagated *Magnolia amoena*, the Chinese Tianmu magnolia, from seed



ELYCE RODEWALD – Coordinator Environmental Education Programming

Education Team

Assistant Coordinator: Jocelyn Moore

Student Workers: Kylie Blevins, Ron Clark, Marcus Dean, Brendan Leland, McKenzie Lucas, Alex Marquez, Sam Servin, Mallory Smith, Juan Soto, Katie Van Metre, Victoria Williams, Maggie Yoerger

Interns and honor students: Dylan Williams, Garrett Uhl, Heidi Paul, Coral Bunch

Education Assistants: Jim Lemon, Kerry Lemon, Vanessa Calderon, Michael Galvez, Yasmine Abdalh



SFA Garden Volunteers: Ray Goehring, Mary Louise Jobe, Cindy Bashaw, Kerry Barnes, Rick Schafer, Ray Cole, Cliff Shackelford, Julie Shackelford, Robin Shackelford, Brent Burt, Jim Lemon, Michael Moore, Oliver Moore, Emily Foytik, Katherine Redburn, Kasey Jobe, Jessica Mattox, Eamonn Thurmond, Brendan Leland, Nick Peckham, Krista Ward, Cam Roja, Abraham Juarez, Micah Montgomery, Dylan Williams, Zachary Trefla, Sherrie Randall, Barb Stump, John Michael Abedlt, Nick Schiwitz, Sheila Ponce, Beth Smith, Nick Langlois, Cheryl Boyette, Junior Forum members, Maddie Livingston, Sarah Kupka, Dr. James Kroll, Kay Jeffrey, Haden Jeffrey, Preston Castillon, Isral Rodriguez, Jenny Johnston, Ray Johnston, Allisa Estep, Falvio Hlnojsa, Ryan Shurman, Haily Shanesh, Jacob Kittrrell, elementary education interns, Hunter Worthy, Collin Clark, Hayden Campbell, Elizabeth Davidson, Vickie McCarley, Kim Lusk, Joan McDonald, John Boyette, Allen Smith, Sean Willis, Michelle Moore, James Ballenger, Sam McCallip, Malcom Turner, Mike Bates.

Presentations

Coordinated and/or presented educational programs for SFA Gardens for over 9,000 participants. See table below.

Highlights include weekly after-school programs for Boys and Girls Club Members, hands-on environmental education field trips for all Nacogdoches ISD elementary students grades K-5, outdoor family fun days, bi-monthly garden seminars, four weeks of summer camps and special events including the Little Princess Tea Party.

11-12-19 Sharing Nature with Children. Presentation to Four Seasons Garden Club, Nacogdoches, TX.

SFA Student Involvement

Environmental Education programs at SFA Gardens advanced the University mission by enhancing excellence in teaching, learning, creative work and service and by creating new learning opportunities for SFA students. Four students completed required internships and honors class projects by participating as teachers in the after-school program, family days or summer camp experience. Over 200 students enrolled in science methods courses taught by Drs. Leah Kahn and Paula Griffin also gained hands-on experience in curriculum development and instruction in an outdoor classroom through their participation in Bugs, Bees, Butterflies and Blossoms and Wild About Science.

Community Partners and Volunteers

Pineywoods Audubon Society, Boys and Girls Club of Nacogdoches, Texas A & M Forest Service, Boyette Consulting, City of Nacogdoches Parks and Recreation Department, Keep Nacogdoches Beautiful, Pineywoods Beekeepers Association, Texas Parks and Wildlife Department, US Forest Service, Nacogdoches Junior Forum, Nacogdoches Boys and Girls Club, NRCS, AgriLife Extension Service

Community Partners and volunteers donated 2024 hours of service to SFA Gardens in 2019. This donated service is valued at \$49,871.36

Training

At SFA, attended training for search committee, security awareness, acceptable use policy, Pcard, ethics, receipts and deposits, CPM, defensive driving, PCI simplified, risks of social media sharing, Title IX, property management, EOE, Tcard training

1-6-19 TEEAC certification, Austin, TX. Updates and information regarding state-mandated science curricula as it relates to informal science educators in Texas.

1-7-19 NASP training, Burnett, TX. In-depth instruction on techniques to teach archery in the schools program.

FMLA

Leave taken August-December 2019

JOCELYN MOORE

Nacogdoches Naturally Education Program:

Once weekly after school program for 20 Boys and Girls Club Members grades 2-5 during 2019.

Family fun days:

January 26, 2019: Kid Fish—community event with SFA Gardens offering angler education.

January 26, 2019: Nacogdoches 4th Annual Seed Swap at PNPC

February-November, 2019: Assisted with weekly educational field trips for students grades K-5

February 16, 2019: Bird Day – community event at PNPC in partnership

February 27, 2019: Wellness Fair – SFA student learn about SFA Gardens trails and employment/volunteer opportunities

March 8-9, 2019: SFA Gardens BioBlitz – educate general public about biodiversity and do citizen science to track species at PNPC using iNaturalist in partnership with the SFA student chapter of the National Association of Interpretation.

March 30, 2019: Little Princess Tea Party – fundraising event that encourages female youth to engage with the Azalea Garden

April 27, 2019: Breakfast on the Farm – community event at the SFA Beef Farm

June-July, 2019: Pineywoods Summer Camp Programs for children ages 4-15

October 19, 2019: Outdoor Skills Family Day – family event at the PNPC, teaching archery, outdoor cooking, species ID, etc. in partnership with the SFA student chapter of the National Association of Interpretation

October 27, 2019: Healthy Halloween “Outdoor Skills Games” booth – family event at Festival Park in partnership with the Healthy Nacogdoches Coalition



November 9, 2019: Mission Tejas Family Adventure Day – staff led fishing, outdoor cooking, hikes for families enrolled in Nacogdoches Naturally

December 4, 2019: Family Harvest Feast for Nacogdoches Naturally – students, staff, parents and family members welcome to share a meal students prepared at the CEB building at PNPC

Presentations:

January 4, 2019: Environmental Education and school gardening presentation to the Pines Garden Club.

October 10, 2019: “Environmental Education for Our Youngest Citizens” talk for the SFA Gardens monthly lecture series.

Outreach/Partnerships:

January 26, 2019: Partnered with the History Department to conduct a living history recordings of saved seed stories at the Nacogdoches 4th Annual Seed Swap at PNPC.

January-December, 2019: Attended monthly Healthy Nacogdoches Coalition meetings, facilitating meetings for the School and Community Gardening committee Nac Gardens.

January-December, 2019: Provided ongoing opportunities for SFA Wildlife, Forestry, Human Dimensions, Education, Social Work, Sustainability, Nutrition, and Hospitality students to complete service-learning opportunities and minimum service hour requirements.

January – April, 2019: Attended monthly dinner meetings to collaborate with the East Texas Cultural Alliance (Caddo Mounds, Stone Fort Museum, Lufkin Forestry Museum, Nacogdoches Public Library, Texas Forest Trails and SFA Gardens) for best practices and resource sharing. Current project is planning collaborative volunteer recruitment and training program.

January-June, 2019: Worked weekly with SFA Nutrition intern, Coral Bunch, to help support Boys and Girl’s Club gardening and nutrition programs.

May 1st, 2019: Hosted six interns from the SFA Hospitality and Nutrition programs to help with the Spring Family Feast.

August-November, 2019: Helped form a coalition (Jacks Go Green) of 20 SFA students, staff, and faculty to help pass the SFA \$5/Semester Green Fee to fund sustainability projects on campus.

August-December, 2019: Worked weekly with SFA Communications intern, Garrett Uhl, to capture and highlight SFA Gardens Environmental Education programming and promote Green Fund.

November 19-22, 2019 and December 3-6, 2019: Worked with SFA Nutrition intern, Heidi Paul, to support SFA Gardens nutrition and gardening programs for youth and NISD school gardens.

December 4, 2019: Hosted six interns from the SFA Nutrition programs to help with the Winter Family Feast.

Grants and funding:

June-December, 2019: Helped administer the Texas Parks and Wildlife Department Co-op grant for the Nacogdoches Naturally and Pineywoods Camps programs.

January – May, 2019: Received in kind donations from Texas A&M AgriLife Extension to support Nacogdoches Naturally gardening and cooking programming.

October-December, 2019: Conducted national field survey and extensive research for undergraduate capstone project to determine best practices in university-based environmental education.

December 4th, 2019: Received in kind donations from Texas A&M AgriLife Extension for the Winter Family Feast.

December 19, 2019: Applied for The Cornell Lab of Ornithology “Celebrate Urban Birds” grant for \$500.

Trainings:

May 4-5, 2019: Wilderness First Aid training.

May 28-29, 2019: Grant reporting training with Texas Parks and Wildlife Department for the TPDW Co-op grant.

June 10, 2019: Red Cross First Aid/CPR training with Sandy Miller at PNPC.

July 12-14, 2019: Caddo Teachers Workshop training at Alto Elementary School with Caddo Mounds State Historic Site staff and Caddo artists, presenters, and educators.

August 12-23, 2019: High Desert Museum Micro-Internship – professional development and environmental education shadowing.

October 3, 2019: National Archery in the Schools Program (NASP) training with Dr. Jay Thornton at SFA.

DUKE PITTMANN – SFA GARDENS SUPERVISOR

I am the SFA Gardens Supervisor and have been on staff since October 2009. I'm an SFA Horticulture graduate (2008). I grew up in Mexia, Texas and developed an early love for gardening before graduating from Mexia High School. Most of my duties are associated with garden maintenance and managing a number of garden projects. Most of my maintenance responsibilities are in the Ruby Mize Garden and Gayla Mize Garden which include irrigation management, weed control and removing dead/dying plant material. I have prepped beds for planting. I was partially responsible for a drainage improvement project in the Gayla Mize Garden, a work in progress. I have assisted in planting many trees and shrubs.



Dr. Jodi and Duke Pittman from Pittman Farms in Garrison presented a workshop at the Ina Brundrett Conservation Education Building to teach the best techniques for creating personal care products from natural materials. Feb 9, 2019.

MALCOLM TURNER - SFA Gardens Technician

Kiwifruit:

We continued our research and trials on the kiwifruit projects at Jimmy Hinds Park on Austin and at Grounds/Transportation on Starr Ave. We worked closely with Tim Hartman on his research as he completes his doctorate at Texas A&M University. A rising Lanana Creek hit us hard at the older kiwi project with a couple of floods, one of which swept away the beehive we used for pollination. The kiwi vines produced plenty of fruit this year and we are understanding the correct growing methods required for optimal fruit production.

Part of this research is working with “cooperators” to begin establishing test orchards away from the SFA campus to introduce kiwifruit as a viable crop in our region. North Texas Community College in Mt. Pleasant has been growing ‘Bruno’ seedlings in their test orchard since May 2019. Greer Farms in Daingerfield also established a test and we are very enthused with the structure they built for their orchard. Twinwood Farms in Simonton is currently working on building a 100+ acre orchard. We’ve met with the owners of other properties and done some site analysis.



Blueberries:

While most of our attention has been on kiwis, some of our time also involved work at Blueberry Hill. We brought in some new varieties to replace types of which we had too many plants. At the top of the hill we are growing plants in 20-gallon cloth bags called Smart Pots. Grown in these air permeable pots rather than the ground or hard-side pots, the plants seem to respond better to their environment. It also makes irrigation and fertilization easier and more reliable. Looking forward to seeing how much flowering we see in the 2020 spring.

Figs:

The figs have been established for years and most of our work with them is general maintenance. We check the irrigation, mow, weed, apply herbicide when needed, and visit with the occasional walkers, joggers, bicyclists, and SFA students.

Muscadines:

We have a well-established muscadine grape vineyard in the Jimmy Hinds Park that requires maintenance and pruning regularly during the year. In January we prune the vines back to the leaders and a few spurs, then let new growth come in. We saw very nice fruit production this year, only to discover the local wildlife, mostly deer, like to consume the grapes as they ripen. Plans have been made to increase our fencing and enclose the vineyard. We were set back with the rains this year but expect it to be up during the first quarter of 2020. We discovered that some of the plants are incorrectly named, and they are slated for replacement with known, correct varieties.

Work at Moody Gardens:

This year is/was to be the last of our time working on the trial beds behind Moody Gardens in Galveston. Over the summer we were contacted by John Zendt, Moody Gardens, to submit a new proposal for work there, and we are awaiting a response. We remain hopeful. The plots are located between the bay and Galveston Airport in a very tough environment. It is flat and open, only 3-4 feet above the bay waters, and windy. The salt in the groundwater and in the air coming off the Gulf of Mexico takes its toll on plants. The wind seems unending there and many of the plants spend their lives leaned to the east as the west wind comes through unimpeded.

Other SFA campus work:

From time-to-time we are asked to assist our education department or the horticulture department. This year I installed bees in the Winn-Day hive located on the southeast side of the Agriculture building on Wilson. Unfortunately, the bees swarmed and left to find a new home, but we will try again in 2020. The Lanana Creek floods also hit the horticulture crop plots when our kiwis flooded. I've been helping to clean up that area as the time permits. We also helped clear away some old growth on the back of the Agriculture building to install some new beds.

I have a nursery pad at the Grounds/Transportation department where we store some plants for future use. This year we've seen too many plants go in and not enough come out. Maintenance needed to be a lot better.

Travel:

In February, I had a short trip to Fredericksburg, Texas, for the University Landscape Managers Association conference. I like this one because most of the attendees are in similar positions as mine, and we hear from presenters with information very relevant to what we do. In March I traveled with Dr. Creech to the Texas Association of Botanical Gardens and Arboreta for another conference. Again, meeting and hearing from so many people from other gardens is always eye-opening.

Two trips to New Zealand: 1) As a guest of Miko Asia, Ltd, Auckland, NZ, I spent a week in New Zealand in late April/early May to see the kiwifruit harvest. Unfortunately, due to the weather, I never saw any harvesting, but I did see several orchards, both established and new construction, the Seeka sorting/packing/distribution facilities and

met an amazing assortment of people in the industry. 2) I made a second trip to New Zealand in early November and spent a little over a week working on the Mohaka orchard owned by Ross Stevenson and his partners. Their new manager, Gil Singh, taught me about bud thinning, late spring pruning and training, and artificial pollination on a commercial scale. I also learned girdling techniques from Sam Evans, another of the orchard managers.

I made a trip to China in September to visit the Yanoon Biotech Company, Changsha, China to take in their research on kiwifruit. Under the direction of Dr. Zhongyan Wang, this large 20 hectare plot is essentially a large breeding and selection operation with over 20,000 controlled and open pollinated seedlings planted per year. I was impressed with the new varieties he has brought to market. While in China, I went to Nanjing and connected with our friend and colleague Dr. Hua Jianfeng, his wife, Dr. Qian, and their son, Joey. I toured the Nanjing Botanical Gardens and labs. Dr. Qian toured me through her research facility. I met and had dinner with many of their coworkers. Dr. Hua and I traveled to Shanghai for my last two days. I visited small gardens everywhere I could find them and local produce markets to see the kiwifruit, figs, persimmons, and any fruits or vegetables I didn't immediately recognize.

Presentations:

This year I toured a few Texas Master Gardener groups through some of our gardens and introduced them to our work on kiwifruit. I also spoke for the first time at the Kiwifruit Field Day held here at the PNPC.

ANNE SULLIVAN – PROGRAM ASSOCIATE

The Program Associate position was created in May, 2016 for support and expansion of existing programs including membership, event scheduling, booking and management of events in the Brundrett Conservation Education Building including SFA Gardens weddings, contract management; coordinating the quarterly SFA Gardens Newsletter between staff and marketing, preparing for quarterly Board of Advisors meetings, contracts and accommodations for Theresa and Les Reeves Guest Speakers, coordinating garden bench memorials and assisting with garden accounts, grants, publications and travel and other duties as assigned. During the 2019 fiscal year, garden memberships totaled 96 members, with more expected after the end of the year.



Over 57 SFA and community meetings, luncheons, seminars, lectures and workshops were held during the year in the Brundrett Conservation Education Building attended by over 1260 people, in addition to outdoor education lessons and activities conducted by Education Coordinator, Elyce Rodewald for area school children and families, and garden seminars conducted by SFA Gardens staff and guest lecturers. The 2019 Theresa and Les Reeves Lecture Series was attended by approximately 569 guests.

Trainings completed in 2019 include: Property Management Training, Security Awareness, Ethics, Purchasing 101, Receipts and Deposits, PCI Simplified, Banner Finance Overview for Account Managers, Risks of Social Media Sharing, Title IX for Employees and Travel Card Refresher Training.

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CELEBRATING NATIVE PLANTS

Dawn and Jordan continue to work diligently in the native plants arena, and continue to increase the scope of native plant material, with local eco-type genetics, in the Pineywoods Native Plant Center nursery and gardens.



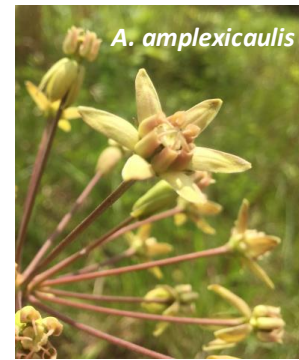
Growing Rare Treasures



Part of our recent work involves learning and experimenting with seed germination protocols with hard-to-germinate species like the silky camellia, *Stewartia malacodendron*. Treatments with sulfuric gibberellic acids are showing some promise.



Milkweed Collections 2019—*Asclepias* spp.



Rare, Vulnerable and Imperiled Native Plants



Magnolia pyramidata



Rudbeckia scabrifolia



Gentiana saponaria



Silene subciliata



Liatris tenuis

Work continues with locally vulnerable and imperiled plant populations, collecting – with permission – propagules to add to our plant repository. One species in particular, the gulf blazing star – *Liatris tenuis* – isn't listed as occurring in Nacogdoches County, but was recently discovered at the Winston 8 Ranch in southern Nacogdoches County. Once successfully propagated, plants will be included in the Elisabeth Montgomery Rare and Endangered Plants Collection at the Pineywoods Native Plant Center.





In the Landscape



Penstemon digitalis

A few of the new species added to the PNPC, most of which are in the xeric bed in front of the Tucker House



Clematis carizoensis



Penstemon laevis



Tephrosia virginiana



Iris brevicaulis



In the Greenhouse: Coming to 2020



Echinacea atrorubens



Liatris elegans var. *bridgesii*

In 2020 we look forward to finding new plants, learning new growing protocols, and expanding the collection of local native plant treasures in the SFA Gardens.

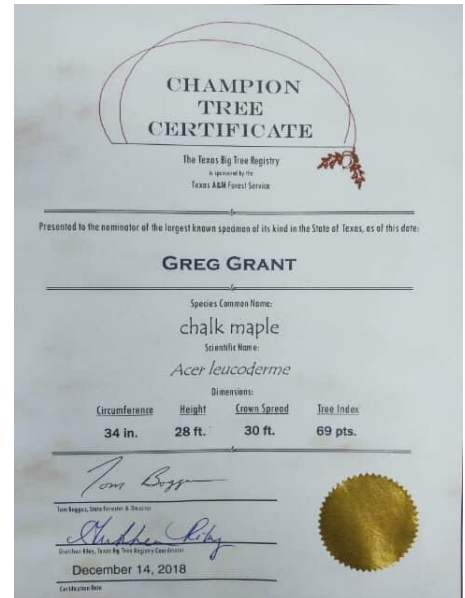


Sarracenia alata



*Stenanthium
gramineum*

CHAMPION CHALK MAPLE AT SFA GARDENS RECOGNIZED



Dr. Hans Williams, Dean, Arthur Temple College of Forestry and Agriculture recognized the SFA Gardens state champion chalk maple, *Acer leucoderme*. Chalk maple is a seldom encountered maple in East Texas. It's a medium sized tree at maturity and is usually blessed with good Fall color if given enough sunlight.



NATIVE PLANT ECOLOGY AND PRAIRIE STUDIES

The Pineywoods Native Plant Center is blessed with a two acre perched wetland upland prairie which serves as an interesting living laboratory for vegetation management strategies. An annual fire remains a consistent factor in the last decade. The Texas Forest Service and Nacogdoches Fire Department have been critical cooperators and the neighborhood is supportive. Dawn Stover has taken a lead in tweaking the vegetation by adding native plants and dealing with thuggish plants who want to own the place and kill the others. It's a work in progress.



SFA Gardens has a long history of conservation studies dealing with the endangered, rare and species of concern in East Texas. *Hibiscus dasycalyx*, *Phlox nivalis* ssp. *texensis* and *Gaillardia aestivalis* var. *winklerii* have been the subjects of much of my work but other species of concern have been included. The Native Plant Society of Texas Charles Leonard Weddle Memorial award in October 2019 is testimony to the work of this garden.

THE SFA GARDENS TAXODIUM RESEARCH AND EXTENSION PROGRAM



SFA Gardens is home to perhaps the finest documented Taxodium collection in the southern USA. Over 136 genotypes are scattered across a wide swath of the LaNana Creek bottomland that runs through the SFASU campus. Shown here is a slightly dwarf version of bald cypress, “Jim’s Little Guy” which grows at a much reduced rate surrounded by the 72’ circle of ‘Cascade Falls’, a weeping version of the bald.



Dr. Mengmeng Gu, Texas Agrilife Horticulture Extension Specialist, at the TAMU Botanical Garden, College Station, Texas with an SFA Gardens Taxodium introduction, ‘Oaxaca Child’. This is a select seedling from the champion Montezuma tree at Oaxaca, Mexico. It is very fast growing, salt and alkalinity tolerant, tends to an evergreen nature and is kneeless. Vigorous June cuttings root easily under mist. The tree needs serious training in the first three years to “fix” a good leader which leads to much better form.



The SFA Gardens project at Moody Gardens on Galveston Island, Texas, includes a wide array of Taxodium genetics. The germplasm includes hybrids from the Nanjing botanical Garden Taxodium Breeding and Improvement program which has a focus on salinity and alkalinity tolerance, growth rate and aesthetic appeal.



Extension of improved hybrids in the wetlands of the Yangtze river basin by the Nanjing Botanical Garden is of a scale difficult to describe. Millions of trees planted. Clones allow for very uniform stands.



The SFA Gardens Taxodium collection runs along both sides of LaNana creek on the campus of SFASU. Broad collection of mapped and documented selections, known varieties and interesting seedling populations.

SFA GARDENS SKUTCH MAPLE RESEARCH AND EXTENSION

Skutch maple, the Mexico Mountain Sugar Maple, is a true sugar maple. Endangered in Mexico, our original tree at the Mast Arboretum is the largest tree in the USA. It has proven to be fast growing, blessed with good fall color and alkaline tolerant, thus suitable for planting in central Texas where Sugar maples typically fail. Seedlings from our original tree have been distributed far and wide and proven themselves durable landscape trees. SFA Gardens sold about 150 trees from the large 2011 planting of Skutch maples at the SRC which was purchased by Environmental Design. These large 30' trees have been dug and transported to Fort Worth and other locations in Texas and provide our research program a fine genotype X environment research opportunity.



Skutch maple planting at Walsh City subdivision west of Fort Worth, Texas. Trees from SFA transported by Environmental Design from SFA plots at the Science Research Center, Nacogdoches, TX. 09-01-2019 image.



WOODY STANDOUTS IN THE SFA GARDENS

The large azalea, Japanese maple and Camellia collections at the SFA Gardens have encouraged ever increasing visitation and popularity. The collections are displayed across a range of theme gardens.





Koromo shikibu



Parrotia subaequalis



Camellia japonica 'Pink Beauty'

The SFA Gardens includes a wide range of landscape trees and shrubs that are the result of the gardens connection to plant enthusiasts, academics in the horticultural scene, botanists and nurserymen. The evergreen Magnolias, both exotic and native, are well represented.



Magnolia platypetala

THE SFA GARDENS KIWIFRUIT RESEARCH AND EXTENSION PROJECT

A USDA Specialty Crop Block Grant of the Texas Department of Agriculture funds this project. We are in the third year of funding and a fourth year was awarded in 2019, which will carry the effort until June 2021. A good crop in 2019 and a fine group of farmer cooperators are in place to evaluate the commercial potential of this crop in East Texas.



INTERNATIONAL

Reconnaissance in the pursuit of knowledge is seldom wasted. As part of the TDA supported kiwifruit research program, Dave Creech spent one week in Chile in March 2019 with Miko Asia, Ltd. collaborators Ross Stevenson and Murray Malone. Visited six farms in the Santiago region and becoming familiar with the export strategy of this big crop. Malcolm Turner visited Changsha, China, as a guest of Miko Asia, Ltd, Auckland, NZ who are collaborating with Dr. Wang of Yanoon Breeding, Changsha, China, the source of seven new varieties we are trialing.



SFA Gardens is working with a number of cooperator farmers to define what Golden Kiwifruit might do commercially in Texas. At SFA, with four good crops out of six seasons, there is reason for optimism. New genetics now in Texas is very encouraging for the future, varieties that perhaps can swell the range of adaptation. Low chill winters remain a threat. Infrastructure costs can be challenging with structures engineered to handle such heavy loads. Two invasive insects, the Brown Marmorated Stink Bug and Spotted Wing Drosophila are not here yet in force but all evidence suggests they will be soon. Difficulties in pollination are real but can be overcome with artificial pollination. The driving force behind the interest is the potential returns. With 40,000 lbs. and more potential per acre and prices in the \$2.99 per lb. range, you can do the math. New genetics from Italy, New Zealand and China promise to change the way we look at this crop.

JIMMY HINDS PARK MUSCADINE RESEARCH PROJECT



With 71 varieties, the Jimmy Hinds Park muscadine research plot is one of the most extensive variety collections in the South.



BLUEBERRY RESEARCH PLOT



The SFA Gardens Blueberry research and outreach history goes back to the early 1980s and is a primary resource for about 800 acres of blueberry farms in East Texas. The plots are located at the north end of the PNPC. In 2019, we initiated our first project with a grow bag strategy, an interesting technology to produce early-ripening blueberries in the no and low chill category. The purple “smart pots” are producing fine plants on a drip system and controller.



MOODY GARDENS RESEARCH PROJECT

SFA Gardens manages a project at the north end of Moody Gardens, Galveston, Texas, that evaluates ornamentals for their performance in a soil and aerial salt challenged environment. The project has generated interest in the nursery and landscape industry produced three MS thesis students and involved many undergraduates in the last 4 years.



TRIALING PLANT MATERIALS FOR THE GULF SOUTH

At the north end of the Mast Arboretum, the trialing garden includes the latest releases from a number of companies including Proven Winners, Southern Living, Bailey's, etc. For some companies, we are evaluating advanced selection numbers under MOU's for patented or branded material. In addition, unique finds and selections of showy shrubs of local native origin are included. The strategy of the trialing garden is to test ornamentals for three to five years and then rotate them out to make way for newer material.



PLANT SALES, GARDEN LECTURES, SEMINARS, WORKSHOPS AND GARDEN TOURS

Two plant sales and contract grow projects in the past year generated salaries and funding for operations and maintenance. Garden seminars, workshops and the Les Reeves Lecture Series have good attendance and support.



VOLUNTEERS

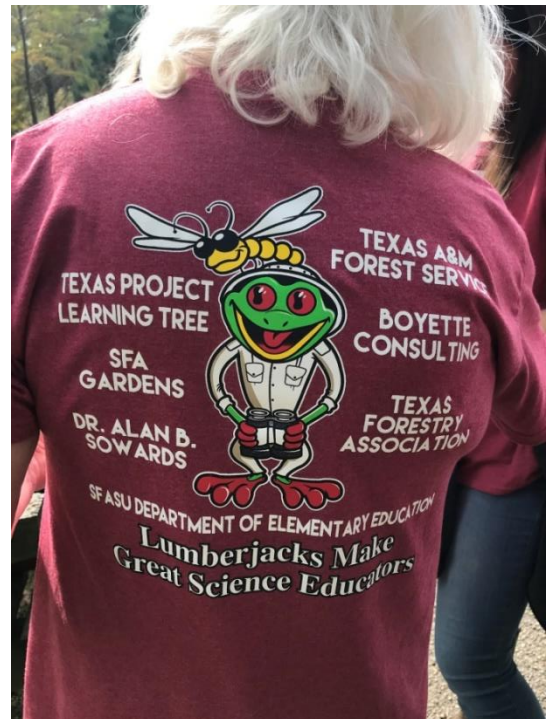
You can never say enough about volunteers. We have a cadre of fans and supporters but without the army of volunteers, the SFA Gardens could never manage the event programming and crop production demands of the program. In the Environmental Education arena, the number of volunteers is increasing. The plant sale is an epic event with a long history and crop production and sale management a major undertaking two times per year. Along the way, our staff, student assistants and volunteers bring crops to the public that make a difference.



SFA Garden Volunteers: Ray Goehring, Mary Louise Jobe, Cindy Bashaw, Kerry Barnes, Rick Schafer, Ray Cole, Cliff Shackelford, Julie Shackelford, Robin Shackelford, Brent Burt, Jim Lemon, Michael Moore, Oliver Moore, Emily Foytik, Katherine Redburn, Kasey Jobe, Jessica Mattox, Eamonn Thurmond, Brendan Leland, Nick Peckham, Krista Ward, Cam Roja, Abraham Juarez, Micah Montgomery, Dylan Williams, Zachary Trefla, Sherrie Randall, Barb Stump, John Michael Abedlt, Nick Schiwitz, Sheila Ponce, Beth Smith, Nick Langlois, Cheryl Boyette, Junior Forum members, Maddie Livingston, Sarah Kupka, Dr. James Kroll, Kay Jeffrey, Haden Jeffrey, Preston Castillon, Isral Rodriguez, Jenny Johnston, Ray Johnston, Allisa Estep, Falvio Hlnojsa, Ryan Shurman, Haily Shanesh, Jacob Kitrell, elementary education interns, Hunter Worthy, Collin Clark, Hayden Campbell, Elizabeth Davidson, Vickie McCarley, Kim Lusk, Joan McDonald, John Boyette, Allen Smith, Sean Willis, Michelle Moore, James Ballenger, Sam McCallip, Malcom Turner, Mike Bates.

THE ENVIRONMENTAL EDUCATION PROGRAM AT SFA GARDENS

Our mantra remains Think Outside! Elyce Rodewald and Jocelyn Moore manage a heavy schedule of curriculum compatible K-12 educational programs, many that fall under the Learning Excursions events including Bugs, Bees, Butterflies and Blossoms, Afterschool Programming, Outdoor Family Day, and Summer Camps. The program includes teacher training and good cooperation with the independent school districts.



With Elyce Rodewald retiring in June 2020, our greatest challenge ahead remains finding a replacement who can work magic with our youngest citizens and the public.



THANK YOU FOR THE SUPPORT!

