

SFA Gardens *News*

Volume 9, Issue 4

Winter 2014-2015

Notes from the Director

By Dave Creech

As 2014 comes to an end, let's repeat the mantra on what "brought us to the dance." What do we mean here? First, having critical mass is part of it. SFA Gardens is now big enough and diverse enough to justify a visit from afar. Let's face the facts. Few

want to drive three or four hours to visit a garden that takes 30 minutes to walk through. Second, it's all about collections. We don't have a million dollar budget for annuals. This isn't the Dallas Arboretum. There's no sweep of one million tulips. It's not our talent. Fi-

nally, we're blessed with a small army of enthusiastic staff, volunteers, students and outside support that allows us to take care of the place.

One of the showcase plants here is Japanese maples. At last count, our database indicates we have 454 of these stellar woody plants in the garden, and about that many varieties. Everything started here in the Mast Arboretum bottomland about 25 years ago in a patch carved out by a landscape plant materials class. A collection of donated azaleas, a few camellias and about 50 Japanese maples ordered as small grafted liners from Dell's maples, which if I re-



Above: SFA horticulture students from one of Dr. Creech's early landscape plant materials classes pose with the first planting of the now extensive Japanese maple collection at the Mast Arboretum in fall 1988.

Right: The original planting of Japanese maples now stands at a mature height and spread, and provides reliable fall color close to Thanksgiving each year. This image was captured in November 2014.



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Notes, *cont.*

member right went for about four to five dollars each. Back then, Japanese maples were rarely encountered in Texas or Louisiana retail outlets. If available, they were often listed as “red” or “green.” There are now hundreds of varieties.

Japanese maples typically describes the cultivars of *Acer palmatum* and *Acer japonicum* (fullmoon maple). Although there are two dozen additional species in Japan (more if you count introduced species), these two species have received the most interest and use. The definitive text for Japanese maples is by J.D. Vertrees, a 2009 Timber Press publication, now in its fourth edition. It was our “Bible” for finding new varieties. From small trees to shrubs to small dwarfs, there’s a variety for anyone’s taste.

At SFA Gardens, the strategy

has been to buy small grafted liners via various mail order specialty nurseries. We grow them for one to two years in containers. Cost is a major reason for that strategy. Large containerized Japanese maples can be expensive.

In our region, sunlight and exposure has a huge impact on Japanese maple survival, growth and performance. Full exposure to a western sun is maple suicide. Varieties that feature variegated foliage or highly dissected leaves need additional protection. Japanese maples like well-drained, humus-rich soils, and we have learned over time that planting on a slight berm or knoll is best. Japanese maples are tolerant of sands and clays, preferring slightly acidic soils, with mulch over the entire root zone, a part of the plan. For the critical first three or four years, good irrigation is critical. At SFA Gardens,

we utilize drip or sprinkler irrigation. Both work well. Once established, Japanese maples are amazingly drought tolerant in our Pineywoods region. When it comes to pruning, we usually say “why?” The tree’s natural form is the goal. Cut away any shoots that arise from below the graft and, yes, you can remove a damaged limb or low hanger if you wish - but put away the saw. Whatever you do, don’t try to hack your way to a meatball or cube - the maple police may come calling.

A Japanese maple is an investment. It’s a classic, small woody tree blessed with spring and fall color, and interesting form and a grace in the landscape that few trees can mimic. It’s a signature of SFA Gardens and it’s part of what makes this place special.

Something Sprouts at SFA

By Jared Barnes

In the last newsletter, I discussed how I will trial edibles and perennials at SFA, and if you’ve driven along Starr Avenue lately, you may have noticed that I haven’t wasted any time getting started. I’ve happily taken over the SFA Sustainable Community Education Garden with the intention of revitalizing it and expanding its purpose. In the spirit of starting something new, I’ve renamed the garden and called it “Sprout.” It’s a fresh, energetic name that has a great horticulture connotation.

As an overall goal, I want Sprout to cultivate tangible



‘Easter Egg’ Radishes, and ‘Purple Haze’ and ‘Rainbow’ carrots are popular items at the Sprout Garden Market

growth with the plants we grow, with students and with the community. So, what does that look like? With the plants, I want to generate important data that’s applicable to gardeners and small-scale farmers across the southeast and southern plains. Edibles are really big now in horticulture with young people (Taylor Swift loves cooking Brussel sprouts!) as well as the older generation. But, there’s limited university research in the southeast to help ensure good production of many of these lesser-grown species like Swiss chard or kohlrabi

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Sprout, *cont.*

that have piqued the interest of consumers.

With students, I see the garden as a way of connecting with them. Many students are interested in food or living a healthy lifestyle, and the garden is a way to engage with them. The other evening, I had a great 20-minute conversation with a theatre major about vegetables and gardening. He had never tasted, let alone heard of Swiss chard before, and I had the opportunity to introduce it to him and his taste buds. That experience showed me the power of having that garden there to connect with the student base on campus.

And, having an edible garden is an excellent way to cultivate growth in the community. First, one of the great things about trialing edibles is that you can eat them, and in October we launched the Sprout Garden Market in the headhouse behind the agriculture building to sell produce from the gardens. It's been fun to see how excited people get over fresh locally produced food. Having fresh produce every week helps us to connect horticulture in a life-sustaining way with patrons. It's also a great way to build connections and relationships with these consumers. As Sprout continues to grow, I see the opportunity to produce educational materials, host workshops and give Sprout garden tours so that we can teach others how to grow more of their own food in new and interesting ways.

For example, most people don't take advantage of gardening during the cooler months of the year.

Many people think that with the arrival of winter that the gardening season is over, but for me it's just getting started. Gardening in the wintertime really gets my blood flowing, because there's so much unexplored opportunity. It also capitalizes on our southern heritage. I learned in a conversation with Wesley Greene, a gardening historian at Colonial Williamsburg in Virginia, that in colonial times water was the limiting factor for growing plants. There was no plumbing, and it was a challenge to carry water from a river or well unless you were a rich family with many slaves. That's why greens became so popular in the south.



Initial results of the low tunnel, floating row cover Swiss chard trials are promising compared with plants provided with no cover

They could be planted at a time of the year when rainfall was plentiful and crops needed little water.

Now, I believe that it's time we southerners expand our edible palette and grow more during the winter. To help cultivate that interest, I'd like to share with you some of the best things we've grown this fall. First, the Swiss chard trials I'm conducting are yielding some very useful data.

Covering them with the floating row cover protected the plants during the hard freezes we got back in mid-November. Those uncovered plants showed significant burn, and with some cultivars we even lost a few plants. So far 'Prima Rossa' and 'Verde de Taglio' have the highest yields, the former with a beautiful maroon coloration and the latter a rich green color.

We've had great success with other crops, too. Carrots also have been very productive. One of my favorites has been 'Purple Haze;' it is extremely sweet, and the root is tinged purple on the outside but orange on the inside. Kohlrabi has been a delight to have in the garden. The swollen stems can be eaten fresh or cooked, and they have a slight spiciness to them. The leaves also are edible and very sweet for a cole crop. And, as a surprise, a few potatoes that were left in the garden last spring sprouted shoots. I transplanted two of the leafy tubers into one of the raised beds to see what they would do, and to my surprise we harvested five pounds of potatoes off those two plants!

It's observations like these that are allowing us to explore creative avenues for how we can introduce fresh food to people in new ways. If you haven't been to the market, come visit us from 11 a.m. to 1 p.m. every Friday in the headhouse behind the agriculture building. The market will start on Friday, January 16, and run through the summer. Also, if you would like to get added to our weekly email list, shoot me an email at barnesj@sfasu.edu.

Propagating at the PNPC

By Greg Grant

We start new plants year round at the SFA Pineywoods Native Plant Center, and I thought you might like to know how. We primarily produce plants for our two fundraising sales but, also for our landscape and to exchange with other public gardens and professional horticulturists. In addition to native plants,

we also propagate plants that I've introduced along with special treats shared by friends like Bill Welch and Jerry Parsons.

We start new plants using both seeds and cuttings. Seeds can be either dry or fleshy and may or may not need pre-planting treatments to get them to germinate. Dry seeds (liatris, coneflowers, maples, etc.) are collected when they are brown and beginning to shatter or fall from the plant. After cleaning and screening they are then placed in paper bags for several weeks to ensure they dry completely.

Fleshy seeds (plums, magnolias, viburnums, etc.) are collected when the fruit is completely ripe or overripe. The seed will not be viable if the fruit isn't fully ripe. The fleshy pulp around the seed is then removed — a process called maceration. Fruit pulp contains natural germination inhibitors and needs to be removed before planting. In nature, birds and other animals take care of this before depositing the clean seed.

Once we have clean seed, we have to decide what treatment, if any, it needs before we store or plant it. The two types of seed

treatments we regularly deal with are scarification and stratification. Seeds that need scarification (bluebonnets, redbuds, Texas mountain laurel, etc.) have extremely hard seed coats that don't allow them to initially soak up water. In nature, it takes years for the seed coats to gradually become abraded so water may enter. This ensures that after certain years of complete seed failure, there are still seeds germinating from a multitude of previous crops. We use concentrated sulfuric acid to scarify these types of seed so that we can get maximum germination the first year. Different kinds of seed and different crops of seed need differ-



Swamp chestnut oak seedlings germinating in the Native Plant Center greenhouse

ent amounts of scarification. We typically allow them to soak in the concentrated acid from 45 to 90 minutes.

Many seeds from temperate climates (especially woody plants) need stratification before they will germinate. Stratification is a cold-moist treatment that mimics lying in the leaf litter throughout the winter. Many plants have a built in

delay before germinating in the spring. This keeps them from immediately sprouting during the fall or in warm spells during the winter and then later being killed by a hard freeze. We typically mix the seed with moistened perlite and then store them in the refrigerator for around three months before planting them.

When they begin to sprout, or after three months is up, we plant woody plant seed in individual cells or community flats of composted black pine bark amended with slow release fertilizer, dolomitic limestone and micronutrients. For perennial seeds, we use half pine bark and half peat based professional potting soil. For the occasional annual seeds that we sow, we plant in straight peat based potting soil topped with a thin layer of vermiculite, unless the seed requires light to germinate.

If the cleaned seed isn't to be planted immediately it is stored in the refrigerator or deep freeze in sealed plastic bags. For long term viability it's very important that seed be stored in cold, dry conditions.

For cutting propagation, we use new growth that has just hardened off. Growth that is too tender will wilt excessively before rooting. Growth that is too old and woody will not root as well. For most woody plants the best cutting wood is produced in the spring. On perennials and ever-blooming plants, new growth is often available throughout the year. It's very important that the cuttings not be allowed to wilt or dry out.

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Propagation, *cont.*

Typically, we place them in plastic bags with a bit of added moisture. If we aren't able to stick them immediately, they are placed in the refrigerator where they will keep for up to a week.

We use rooting flats containing small individual cells filled with 75 percent bark and 25 percent perlite. These flats are watered and kept moist up until using them. The cuttings are re-cut just before we stick them into 3- to 4-inch lengths containing 3 to 4 nodes and

dipped into a hormone solution sold as Dip-and-Grow. The flats are then gently watered in and placed in our greenhouse mist system, which comes on around six seconds every six minutes. The amount and frequency of the mist can be adjusted depending on the temperature and sunlight intensity. We then monitor the bottom of the flats watching for roots coming out of them. Once they are fully rooted we pull them from the mist and tend them carefully in the

greenhouse. If they stay in the mist too long they will rot. Once the rooted cuttings toughen up a bit and fully root, they are generally potted in composted pine bark amended with nutrients.

Thanks to tireless volunteers John Makow and Anita Kite, along with Jerrel and Darrel Durham, we keep a steady stream of new plants coming along at all times at the PNPC.

Plant Signs are for the Public

By Barb Stump

Until the day we have plants micro-chipped that tell you what they are, most arboreta and botanic gardens rely on some kind of plant signage to help the public identify plants. Visitors to our SFA Gardens are curious about the many kinds of plants we have in our collections. Labeling has been one of my key obsessions ever since I began work on the Ruby M. Mize Azalea Garden. Each kind of azalea, camellia, Japanese maple, and other assorted woody tree and shrub has at least a genus and a species name, and so many of our plants also have cultivar names. Additionally, some have marketing names applied to them by their developers.

One solution to "what plant is that?" is to have an SFA Gardens staff member or trained volunteer tell the visitor the plant's name while on tour. Another solution is to have metal signs showing the complete plant name. While the latter does take time and money to create, the signs have lasting value

and inform the public.

The process we use is essentially similar to that used in many botanic gardens across the country. Ideally, when plants arrive they are assigned a numerical accession number that tells what year it arrived, along with a sequential number exclusive to each plant. Each entry is recorded in a database and metal tags that include naming information and accession number, are attached to plants.

When the plant is planted, we list it in another database for each of the gardens with a location designation. For example, a new Japanese maple 'Beni Hagoromo' might be planted in Bed 15 in the Gayla Mize Garden, and I note the information in my database for that garden.

As time permits—often in winter, after the heavy fall planting season, or in summer's "down time"—I make lists of the names and locations of the newly planted plants and send this to Dawn Stover formatted for our engraving ma-

chine. She then verifies the plant names and creates the engraved signs on anodized aluminum plates that fit into galvanized plant stakes.

We then go to the appropriate garden and stick them in front of the right plant or group of plants. Yes, it's lots of steps, but it's worth it when we have people ask, "Where are your 'Yuletide' camellias?" I don't have time to go on a tour, can you just point me to them?"

Currently, we are working on signs for the Gayla Mize Garden for the many Japanese maples, hydrangeas, deciduous azaleas and other ornamental trees that have been planted.

Volunteers and I have been working on getting all the plants labeled in that garden for the past 10 years, at least. We still have some to label before our azalea convention people visit Thursday, March 26, through Sunday, March 29, 2015, but I think we'll make that goal.

Solar Saturday Celebration “Flips the Switch” on Sun Club Donation

By Elyce Rodewald

Monday, Oct. 6, 2014, was an exciting day for SFA Gardens. The Fabulous Fall Festival Plant Sale was in full swing with hundreds of eager shoppers vying for the remarkable selection of gorgeous plants grown by SFA research associates Dawn Stover and Greg Grant. The Steel Drum Band was playing lively tunes; the education staff was setting up activity stations; and Charter School students were arriving just as another crowd was gathering near the circle driveway at the Native Plant Center. Why? It was Solar Saturday—a special day to celebrate and dedicate the 12.75 kilowatt solar



Protons, neutrons and electrons from the SFA Charter School 5th grade worked together during Solar Saturday to explain how a solar panel can use energy from the sun to produce electricity.

array perched on the roof of the Ina Brundrett Conservation Education Building. Special guests at the dedication included Tony Napolillo, Sun Club program manager for Green Mountain Energy; Dr. Baker Pattillo, university president, SFA Gardens Advisory Board members and the Green Mountain Energy Sun Club® mascot, Super Earth.

During the dedication, Dr. Creech, SFA Gardens director, expressed his appreciation for the donation and conveyed his excitement about the solar installation,

the first of its kind on the SFA campus and in Nacogdoches. The solar array is expected to offset as much as 80 percent of the energy use in the Conservation Education Building. Tony Napolillo explained that the Sun Club evaluates hundreds of applications from nonprofits every year. SFA was chosen as a recipient because of the potential impact of this solar installation of the building's energy use and because of the university's commitment to sustainability. Tony invited Dr. Creech to “flip the switch” and make solar-powered lumberjacks official.

After the ceremony, the celebration continued with a delightful performance of the play “Let the Sunshine In: How a Solar Array Creates Electricity,” by the SFA Charter School 5th grade, under the direction of Ashley McFarland and Jana McCall. Other activities included solar science experiments, solar kites, a “human” sun dial, creating solar ovens and



Tony Napolillo, Sun Club program manager for Green Mountain Energy Company, ceremoniously “flips the switch” to officially power the solar 51-panel solar array on the Ina Brundrett Conservation Education Building. Pictured from left are Dr. Dale Perritt, chair of the SFA Department of Agriculture; Dr. Baker Pattillo, university president; Dr. Steve Bullard, dean of the Arthur Temple College of Forestry and Agriculture; Lauren Grace Ashley, SFA Charter School student; Napolillo; Dr. Dave Creech, director of SFA Gardens; Zy'Keis Fields, SFA Charter School student; and Super Earth, Green Mountain Energy Company mascot.

cooking s'mores, art projects and solar cooking. Later in the day, Super Earth made another special appearance at Homer Bryce Stadium, spreading the news that Lumberjacks are now solar-powered, thanks to Green Mountain Energy Sun Club.

DID YOU KNOW...

Green Mountain is the nation's longest-serving renewable energy retailer, providing consumers, including those in Nacogdoches, with the choice for electricity plans backed by wind and solar. Through the company's Green Mountain Energy Sun Club, residential customers and supporters of solar have the opportunity to give back to nonprofit organizations through solar power projects. Contributions to the Sun Club help fund the purchase and installation of solar projects at deserving nonprofits each year. Since the program's founding in 2002, the Sun Club has funded 75 projects, donating more than \$3 million to help install over 700 kilowatts of solar power, which has the potential to avoid more than 1.2 million pounds of carbon dioxide emissions each year.

For more information, visit www.gmsunclub.com.

2015 THERESA AND LES REEVES LECTURE SERIES

The Theresa and Les Reeves Lecture Series is held the second Thursday of each month from 7 to 8:30 p.m. in the Ina Brundrett Conservation Education Building, located at the Pineywoods Native Plant Center, 2900 Raguet St.

For more information, contact Greg Grant at (936) 468-1863 or email grantdamon@sfasu.edu.

JAN. 8: “Why Solar is the Future of a Sustainable World” with Tony Napolillo,
Green Mountain Energy Company

FEB. 12: “Headed Down South from the Land of the Pines: Reflections on the Plants, People, and Places of North Carolina” with Dr. Jared Barnes, Stephen F. Austin State University

MARCH 12: “The Amazing, Rare, and Beautiful Mexico Mountain Sugar Maple” with Dr. Yalma Luis-Rodriguez, Louisiana State University, Baton Rouge

APRIL 9: “Plants, Planting, and Pushing the Envelope in Austin Landscapes” with Matt Welch,
Madrone Landscape Architecture

MAY 14: “Can I Interest YOU in an Aroid?” with David Leedy, retired horticulturist

JUNE 11: “Gardening for Food or Beauty; Why Not Both?” with Tim Hartmann,
Texas A&M Agrilife Extension

JULY 9: “Grapes for Table and Wine – Can Both Fit in Texas?” with Justin Scheiner,
Texas A&M Agrilife Extension

AUG. 13: “Climbing Asian Mountains, Forging Rivers, and Fighting the Elements; Moments from a Plant Hunter's Diary” with Scott McMahan, McMahan Nursery

SEPT. 17: “Is This the Best Plant Sale in Texas or Not? A Plant Sale Preview” with Greg Grant and Dawn Stover, SFA Gardens

OCT. 8: “Can We Feed 9 Billion in 2040?” with Dr. Leon Young,
SFA Soil and Plant Tissue Testing Laboratory

NOV. 12: “Pollinator Update Plus Know What’s Bugging You” with Heath Lowery,
NuFarm Americas Inc.,

DEC. 10: “The Special Trees of SFA Gardens” with Dr. David Creech, SFA Gardens



Come grow with us!

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Art in the Garden

By Kerry Lemon

There are many ways to experience and enjoy the SFA Gardens. Recently Nacogdoches Naturally experimented with using art as a path for deepening those experiences. Children in both of the Nacogdoches Naturally after-school and weekend outdoor adventures had a chance to create art while being directly immersed in the natural world. Setting up easels in the gardens, children were encouraged



to paint what they saw capturing the essence of the color and visual elements around them. The result of quiet concentration and joyful focus was astounding.

