

ST. TAMMANY MASTER GARDENER ASSOCIATION
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VOLUME 24 Issue 1

January/February 2022



An educational program of the LSU AgCenter

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The nitrogen in our DNA, the calcium in our teeth, the iron in our blood, the carbon in our apple pies were made in the interiors of collapsing stars. We are made of startstuff.

Carl Sagan



Photo by M Blazek

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Season Extenders



A seasonal extender is anything that allows a crop to be grown and harvested beyond its normal growing season and harvesting window. There are a wide variety of methods and products to extend growing seasons by allowing early spring planting and by continuing to harvest through fall and winter. Some of the more common methods include row covers, hoop houses, cold frames, hot beds, mulches, raised beds, green houses, and more. The following is a review of these methods.

Row Covers

- light-weight fabric placed over plants
- protects plants from wind and cold
- blocks insects
- retains heat, offers several degrees of frost protection
- in smaller gardens, cover types: newspaper, cones, miscellaneous containers of plastic
- monitor seedlings for moisture and fertilizer
- pull back or remove the cover for thinning or weeding
- as weather warms, check plants for overheating, especially for cool-weather plants, such as lettuce and broccoli
- remove cover if plants are overheating, (wilting, leaf damage and/or blossom drop)
- remove once seedlings have adapted to the outdoors and threat of frost has passed
- many products available: thin to thick fabrics; those that shade from sunlight, others that allow light penetration, fabrics that allow rain penetration, others that are water proof
- remove the covers when flowers begin to bloom to allow for pollination



Season Extenders, continued



Hoop houses

- plastic sheeting placed over a frame (usually an arch-shaped)
- creates a type of greenhouse
- can be large or small
- also referred to as Spanish Tunnels, Grow Tunnels, or High Tunnels
- low cost temporary steel structures
- similar to a cold frame, only larger
- metal or plastic pipes are bent into a series of hoops that are stuck into the ground or attached to a raised bed
- hoops are covered with four to six millimeter polyethylene which is tucked into the soil along the sides
- adds six to eight weeks of growing time inside a hoop house in the spring and fall
- must be ventilated on warm days by lifting the ends or making openings in the top of the plastic

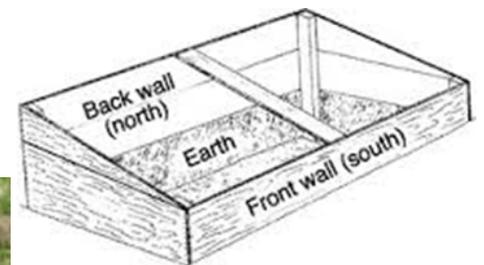


Season Extenders, continued



Cold Frames

- simple structure
- provides warmth and blocks the wind
- sun rays enter through transparent cover
- expand the growing season one to three months
- harden off transplants & raise salad vegetables
- lettuce, radishes, and scallions will grow to full size in a cold frame before their regular outdoor planting season; in fall these same crops may be grown in the cold frame through November
- use in winter to:
 - force bulbs
 - store root vegetables
 - propagate trees and shrubs by hardwood cuttings
- can be portable or permanent
- top should be easy to open to allow ventilation on hot days
- back wall faces north, front wall faces south

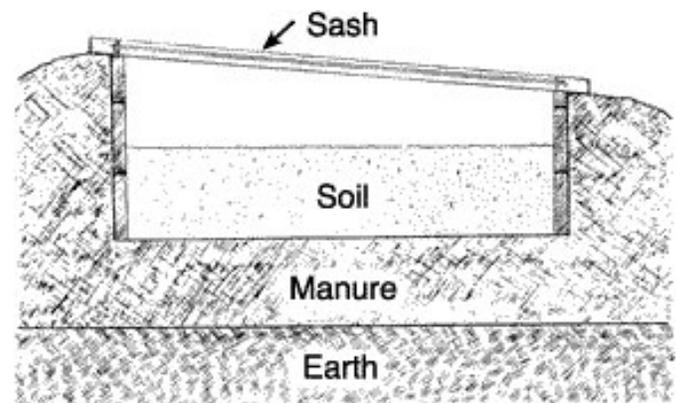
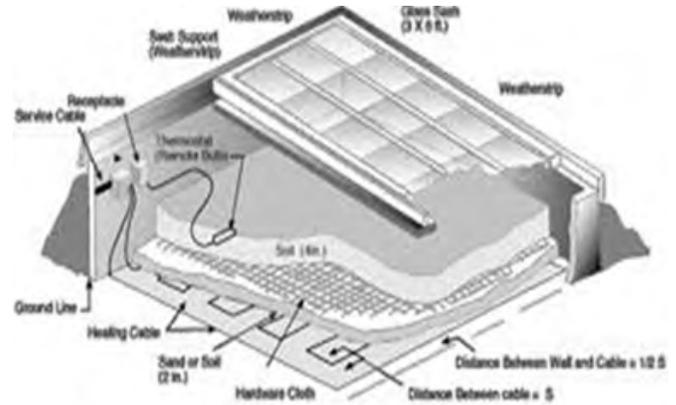


Season Extenders, continued



Hot beds

- simply a heated cold frame
- heating methods:
 - electric cable: space out the cable on a two to three inch layer of sand, in an excavated and leveled floor of the hotbed beneath the soil layer
 - manure: cheap, suitable for short periods in either spring or fall. Requires large quantities of manure. Convenient heat source. Made by placing the board frames on top of a flat pile of manure 8 or 9 feet wide and 18 to 24 inches deep. Additional manure is banked around the outer sides of the frame for insulation and heat retention. Excellent drainage is needed. Temperature control more difficult than electric.
 - light bulbs
 - hot water
 - steam
 - old blankets, straw or burlap bags are effective ways to provide additional insulation to the hotbed on frigid nights. Bales of hay or straw can be stacked against the sides of the structure to further prevent heat loss.



Season Extenders, continued



Mulches: organic or plasticulture

Organic:

- paper mulch saves work and water
- controls weeds while maintaining soil moisture
- cover it with soil and it turns into organic matter by spring
- biodegradable
- eliminates the removal and disposal problem inherent with plastic
- disadvantage: may have a cooling effect on the soil and result in the delayed emergence of spring crops



<https://www.uky.edu/Ag/CCD/introsheets/extension.pdf>

Plasticulture

- used in combination with other season extension techniques, such as raised beds, row covers, low tunnels, and high tunnels
- increases soil warming in the spring
- difficult to remove and dispose at the end of the season
- irrigation necessary when using plastic mulch
- Black Mulch: most commonly used plastic mulch color. Crops grown can be as much as 7 to 21 days earlier than those grown on bare ground. Some plants can overheat as the season progresses. Leaves of plants in contact with the plastic can be damaged.
- Clear Mulch: the most effective in raising soil temperatures. Unfortunately, weeds grow under clear plastic, negating the weed control benefit generally associated with mulches.
- White plastic: effective in reducing soil temperatures, making it possible for cool-season crops to be planted when soils would otherwise be too warm for establishment. Depending on its opacity, may also allow light penetration and weed growth.
- White-on-black mulch: will provide cooling while preventing most weed germination.
- Red mulch performs like black mulch, but research indicates that it enhances the yield of certain crops, such as tomatoes.



Season Extenders, continued



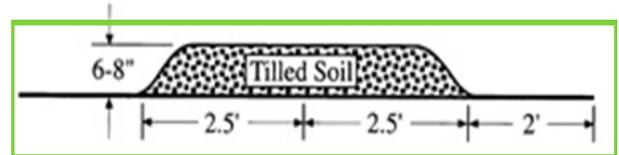
Raised Beds

- simple technique with better soil structure and drainage
- soil warms up earlier in the season allowing a head start on spring planting
- stubborn perennial weeds are less of a problem
- a more comfortable working level
- centuries-old technique for vegetables, flowers, and shrubs



Types of Raised Beds

- flat-topped mound:
 - simplest form of raised beds, just add additional soil about six to eight inches high
 - access areas around the raised beds should be at least 24 inches wide
 - maximum bed width should be two and a half feet if only one side is accessible
 - bed can be up to five feet wide if both sides are accessible
 - to construct: add four to six inches of finished compost, peat moss, or well-rotted manure to the selected area, and thoroughly till it into the underlying soil. Shape into a flat mound about eight inches high, with sides that taper at a 45-degree angle. Let the soil rest and settle for a week or two before planting. Avoid stepping on the raised bed, which will compact the soil. Use a hoe to reach weeds in the middle of the bed.
- supported raised beds
 - framed in wood, stone, brick, or plastic
 - edging frame is an important barrier between the garden and lawn
 - provides barrier against perennial weeds
 - adds a neat, finished look
 - leave a four-inch border of bare or mulched soil around the bed to make mowing easier
 - to construct a wooden frame: cut pieces of 2" x 6" untreated rot resistant lumber, like cedar. Railroad ties treated with creosote (toxic to plants) are not a good choice for raised bed, unless extremely well-weathered. Lumber treated with copper, chromium, and arsenic (CCA) I is also not recommended for vegetable crops. Some of the arsenic may leach out of the wood and be taken up by the plants.

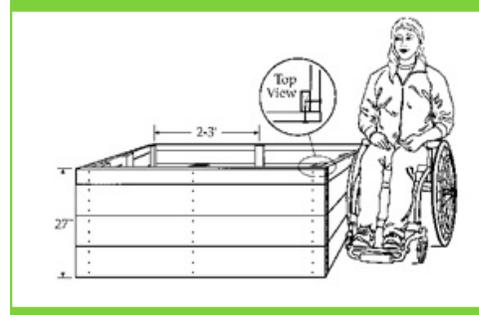


Season Extenders, continued



Types of Raised Beds, continued

- containerized raised beds
 - a raised bed with 10 to 12 inch tall walls offers more protection to plants in high-traffic areas near sidewalks
 - raising a bed to one or two feet can reduce heat in paved areas where reflected heat can stress plants,
 - raised beds with high walls maximize physical accessibility and reduce maintenance
 - for most wheelchair users, 27 inches is a comfortable working height, but beds can be custom-built to any height
 - the width should match the arm's reach



Greenhouses

- usually require a water supply, electrical supply, and some require a fuel supply for heat
- ventilation systems promote airflow through a greenhouse and help control both temperature and humidity
- glazing (the light transmitting material used to cover season extenders or greenhouses) can be plastic film, glass, polycarbonate, acrylic, or fiberglass-reinforced plastic
- a heater must be sized to a capacity to heat the greenhouse on the coldest night of operation
- watering systems: hand-watering, drip, overhead sprinklers, capillary mats, hydroponics, ebb & flow benches
- pollination is a concern with closed systems; some large commercial greenhouses have beehives installed inside



Season Extenders, continued



Alternative Greenhouses

- temporary and portable
- easy to transport and store
- compact and lightweight



- perforated plastic film
- red color to enhance tomato growth
- allows air circulation and heat retention
- protects against pests



- raised bed with greenhouse cover
- frontal access and side vents for airflow
- a protective shade cover with zipper vents to protect from summer heat and pests
- comfortable height



- mini-greenhouse for smaller spaces like patios, balconies, and small yards
- unbreakable polycarbonate panels shelter plants from cold and hail
- controls the inner temperature and blocks UV rays
- protects plants from pests
- comfortable height

Season Extenders, continued



Wall of Water

- a series of 18 tubes filled with water that forms a rigid wall of water surrounding the plant.
- during the day the water is warmed by the sun. Heat is retained to insulate the plant from cold. Retains nearly 900,000 calories of heat to protect delicate plant roots, and warms the soil surrounding the plant
- at night protects the plant to as low as 10° F
- can be used about two or three weeks to allow the plant to survive the cold night
- used for two months to allow for GROWTH
- use in late fall to provide heat needed on chilly nights without fear of overheating during the day
- provides a wind break for the plant, deters animals from destroying crops
- weighs more than 20 pounds when full; gives mass to withstand wind and animal activity



Other Equipment and Tools

- grow lights



- seedling heat mat



- heat mat digital thermometer



Season Extenders, continued



Other Equipment and Tools

- cloche
 - any transparent “house” that covers a single plant
 - frequently used for tomatoes or peppers
 - cloches and hot caps add three to four weeks to the spring growing season
 - most common cloche is an empty gallon milk jug with the bottom cut out
 - another inexpensive cloche is made by covering a tomato cage with clear polyethylene
 - like cold frames and hoop houses, cloches should have some type of opening to allow hot air to escape on sunny days



References and resources:

- <https://www.extension.umn.edu/garden/yard-garden/landscaping/raised-beds-gardens>
- <https://www.wall-o-water.com>
- <https://www.uky.edu/Ag/CCD/introsheets/extension.pdf>

Adapted by J Blazek from a Powerpoint presentation by E. Berzas to the Vegucators.
All photos from Google search.

Elizabeth A. Berzas, PhD
Master Gardener
Vegucator

Year 2021: The Frustrated Gardener

The challenges were great this past growing season: too much rain, poor drainage in my yard due to a landscaping disaster, pests galore, mosquitoes buzzing about my head, the heat, the sweat dripping into my eyes as I raked and mulched. And the creatures! Deer, rabbit, and raccoon! Devouring what little fruit I managed to produce.



Starting in early spring, I had to decide on just the right seeds. Do I get non-GMO? What about heirloom? Do I buy local or mail order? Next, I had to choose just the right soil to support my little seedlings. I was determined not to use commercial fertilizers or poisons.

Sadly, after planting the seed, checking daily with hope and anticipation, and finally transplanting into my garden plot, the results this year were fraught with frustration and disappointment.

Then I came across this quote from Janet Kilburn Phillips. "There are no gardening mistakes, only experiments." I realized that is exactly what I was doing! Experimenting with different gardening methods: keyhole, hugelkulture, raised gardens, and Charles Dowding's No Dig Gardening.



The tomatoes and bell peppers in my hugelkulture garden plot were a disappointment. But at least the marigolds which I placed between each tomato plant blessed me with amazing blooms. So, I guess my experiments were not a complete disaster.



These next few months I plan to focus on composting to naturally enrich my depleted soil. I will hopefully benefit from all my mistakes of last year. As I muse over my gardening experiments, I remind myself of the quote from Audrey Hepburn. "To plant a garden is to believe in tomorrow." I do believe in tomorrow as I dream and hope for a perfect garden next year.

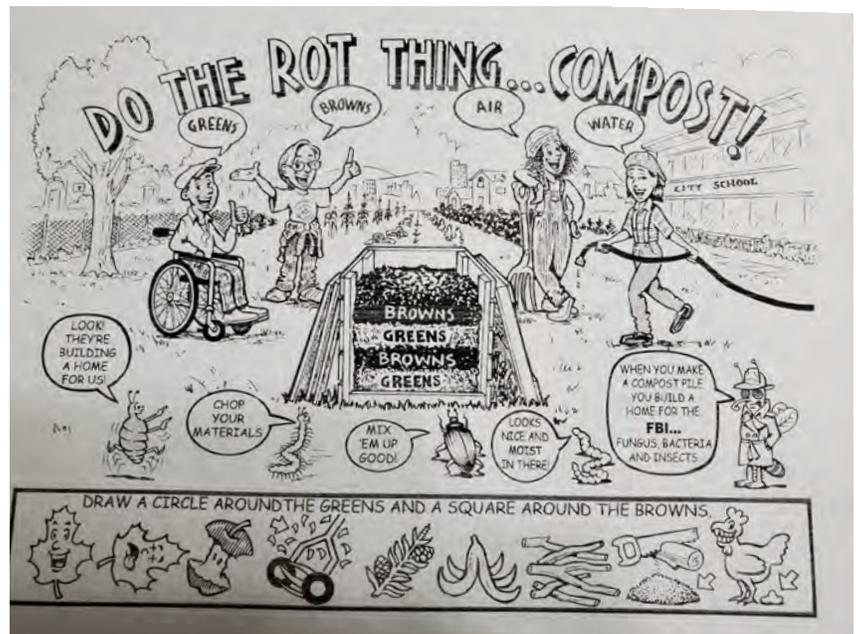
All photos by JL Dill

Junie Louise Dill
Master Gardener

Experimenting With Compost Systems

The abundance of information and opinions on composting can certainly be confusing. We all know a good compost depends on greens, browns, air, and water to feed to beneficial microbes in healthy soil. And we know that healthy soil produces healthy plants. But how do we build healthy soil? It starts with an understanding of composting.

While researching for an in-service to young gardeners I came across this great graphic on composting that explains it simply and better than anything else I have seen. The original and its accompanying workbook was created by Central Vermont Solid Waste District and can be found at https://www.cvsmd.org/uploads/6/1/2/6/6126179/do_the_rot_thing_cvsmd1.pdf



I have tried different plastic compost bins. I find the easiest to turn and keep moist is just a simple pile of compost covered with a large piece of burlap. However, the forest critters can forage through this compost pile and make a mess. Here are the pro's and con's of a couple of commercial compost bins that I have used.

The Tumbler

Pro:

- critters can not get in it
- odor is contained

Con:

- very heavy and difficult to tumble as it fills up
- small opening makes it difficult to remove compost
- container is too small
- poor air circulation



Experimenting With Compost Systems, continued

The Redmon 65 Gallon Bin

Pro:

- easy to keep critters out
- good air circulation
- easy to lift lid and keep compost moistened
- easy to access composted material from bottom of bin

Con:

- difficult to turn and aerate
- compost dries out quickly



Keyhole Garden Compost



Pro:

- easy to turn and aerate
- easy to moisten
- provides nutrients to plants up to three feet from compost center

Con:

- birds and other critters can access compost
- water must be added frequently because compost dries out quickly

Compost in my hybrid **Hugelkulture Bed:**

Same pro's and con's as the compost bin in my Keyhole garden



Experimenting With Compost Systems, continued

No matter what type of bin a gardener decides to use, compost breaks down very slowly. You will not reap the benefits of the compost right away. It might take years for compost to break down into soil. After comparing different compost accelerators to hasten the decomposition process, I chose the Bokashi method. It is an anaerobic fermenting process that works on all food wastes even bones, raw meat, and dairy products. This method involves the use of Bokashi bran inoculated with essential organic probiotics. [editor's note: see The Gardengoer issue July/August 2020 for a more detailed description of the Bokashi composting method. <https://www.stmastergardener.org/the-gardengoer>] Following four to six weeks of fermentation in an anaerobic environment the by-product of the process is added to the aerobic compost bin or buried in a garden plot. To decrease odor and provide more efficient fermentation, the Bokashi bucket should be drained every two to three weeks. The liquid (Bokashi tea) results from decompensation of the food wastes. This liquid is nutrient rich and can be used in place of fertilizer in the garden, but is very acidic and should be diluted with water.

Bokashi Compost Accelerator

Pro:

- kitchen wastes decomposes faster
- essential probiotics added to the soil
- can add raw meat and dairy to Bokashi; it breaks down and then is placed in the aerobic compost pile

Con:

- labor intensive
- difficult to keep bucket air tight
- time consuming; drain liquid every two to three days; bury waste by-product in soil or add to compost after three to six weeks
- exudes an odor when bucket leaks or seal is broken



Due to the volume of kitchen waste, the Bokashi method was becoming a chore: keeping up with the drainage, controlling the leakage, maintaining the anaerobic environment, and burying the by-product in the garden plot or adding it to the compost pile. I decided to invest in the Vitamix Food Cycler which dries and grinds the food wastes to a grain consistency. I can then add that directly to the garden or to the compost bin.

Experimenting With Compost Systems, continued

Vitamix Food Cyclor

Pro:

- decreased volume of food waste
- no odor
- minimal labor required

Con:

- initial expensive cost
- only processes a small volume at a time
- takes five hours to break down food scraps



I have decided that there is no one perfect way to compost. For me it takes a combination of methods: aerobic (basic traditional composting), anaerobic (Bokashi method), and dehydrated compost from the Food Cyclor.

I am trying to do what I can to keep my food waste out of a municipal land fill. It takes perseverance, commitment, and intention. I know it is the right thing to do for the world ... and for my garden.

There is always the next growing season and the desire for a better harvest due to experimentation, knowledge, patience, and continued hope for the future.

All photos by JL Dill

Junie Louise Dill
Master Gardener

Propagation Workshop

Paul and Susie Andres hosted their fourth annual Propagation Workshop for St Tammany Master Gardeners at their home in Slidell on November 2, 2021.

This event was started several years ago to encourage master gardeners to propagate backyard plants for the annual STMGA Northshore Garden & Plant sale. Each fall, as Paul and Susie prepare to move their ornamental and pollinator plants into enclosed areas for the winter, they hold this hands-on workshop. It provides a fun opportunity to learn propagation techniques.



The Andres' collection of plants has expanded and has made more varieties available each year. The propagation "anchor" plants are several varieties of shrimp plants, jacobina, Philippine violets, red fire spikes, African blue basil, night blooming cereus, esperanza, and fiddle leaf figs.

This year some native pollinator plants were added. These included Joe Pye weed, bee balm, bat-faced cuphea, and turk's cap. Most of these new additions were not fully established and only a few cuttings were available this year.



Propagation Workshop, continued

Other plants, such as the ligularia and spiderwort, are divided by their roots and were not quite ready for division this session. These should be ready for 2022. Even so, the master gardener participants still brought plenty of propagated plants home from the workshop.



Will Afton presented a citrus grafting demonstration for the second year and shared his wealth of knowledge on many gardening topics.



This year the weather cooperated with pleasant temperatures and lots of sunshine. Lunch was enjoyed in the backyard garden, with friendly company and stories shared by the 20 attendees.



All photos by P. and S. Andres

Paul Andres
Master Gardener
Vegucator

Shades Of Winter

Many people think that all plants go dormant during winter and just wait until warm weather returns the following spring. Experienced gardeners, though, will tell you that all garden plants have a specific time they put on a show and sometimes that happens during the late winter months.

Seasonal Color

Seasonal color is a term used to describe annual flowers or bedding plants used to bring immediate and visible color to a landscape planting. Annuals are plants that complete their whole life cycle in a year or in one growing season. Typically, these plants are low growing, herbaceous, and come in a variety of colors. You will find them in six-pack containers (36 plants in a flat) and four-inch containers (18 per flat). You may even find larger plants in a six-inch round container. Take note of the light environment at the nursery so you can make decisions on where to use them in your home landscape. Full sun bedding plants will be kept in areas that get a lot of direct sun light. Shade loving varieties will need to be kept in areas with shaded or filtered light.

We group our bedding plants during the season in which they grow properly. Look for cool season bedding plants to plant now so they can grow during the cooler months. Use the calendar date of November 1st as a “line in the sand” to determine what will be planted. Some of the common bedding plants that you will see in winter beds include classic plants like alyssum, dianthus, nicotiana, pansy, petunia, poppy, snapdragon, and viola. Plants like dianthus and alyssum are good choices for late winter because they display some warm weather tolerances. Both perform well into



late spring and may linger into early summer. Pansies are the most popular cool season flower in the industry. Check out the large flowers on the Magestic Giants II series (above). They can make quite a show when planted in masses. Left is a late December planting of pansies, dusty miller, and foxglove at the LSU AgCenter Botanical Gardens at Burden.



Here is crop of Supertunia Vistsa® Bubblegum® petunias (left) in the last stage of production before being sold.

Shades Of Winter, continued

Perennial Color

Perennial describes plants that will live for two to three years or longer. Many may be considered “foundational” plants because their color will climax every year at the same time to provide annual consistency in the garden. Perennial foundation plantings can be enhanced by adding colorful annuals throughout the year to provide more striking interest in the garden. Foundational plants can be evergreen or deciduous depending on whether or not they drop all their leaves at one time. Some may flower first and then leaf out. Others leaf out first, then flower.

Ornamental grasses fall within this category and every gardener should be made aware of their tolerances to different growing conditions. A lot of folks are getting on board with this concept. You can even start to see municipalities use more ornamental grasses in their public plantings due to reduce maintenance and overall performance in some tough places. All you need is five to six hours of direct sun and an area of soil that does not puddle when it rains. These grasses may turn earthy colors in the wintertime, but they still provide interesting contrast and seasonal color! Switchgrass (right), *Panicum virgatum*, is a native grass that grows well in St. Tammany Parish. Notice the strong vertical appearance and earthy colors. Even when dormant they can add interest to a late winter garden



Some excellent options to consider for St. Tammany Parish residents include plants like camellias (*sasanqua* and *japonica*), forsythia, and Japanese pieris. Do not forget about trees! They fall under the same definition of perennial, and some produce colorful flowers. Think of plants like Japanese magnolia, redbud, and swamp red maple. Japanese magnolias (deciduous magnolias), serviceberries, and redbuds typically open flower buds first and then leaf buds. These add a lot of excitement to the late winter or early spring garden. This Japanese magnolia (left) is in bloom at the Southeast Louisiana Wildlife Refuge Headquarters in Lacombe, LA.

Shades Of Winter, continued

Cercis canadensis or Eastern redbud (right) blooms in winter. Notice the flowers appear before the foliage.

Swamp red maple trees go through many different colors throughout the year. In late January and early February, they open flower buds and glow with a red color. They can be seen driving down many of our state highways throughout St. Tammany Parish and most of South Louisiana.



Serviceberry tree, *Amelanchier arborea*, in full flower (left)

As you make your way through late winter and early spring seasons, make note of plants that stand out and attract your attention. Take a picture. Ask questions so that you can find out what it is. Start looking for a place to purchase it. As with life in general, the search can be just as fun as the reward.

All photos by W Afton

Will Afton
County Agent
LSU AgCenter



Giving And Getting Back

Donating your time to others, to a charitable endeavor, or to a cause is a wonderful way to give back to your community. Master gardeners give back by volunteering their expertise through the STMGA projects. The master gardeners working with the youth at the Florida Parishes Juvenile Detention Center (FPJDC) exemplify that spirit of giving.

It has been almost a year since a small group of St. Tammany master gardeners set aside a few hours a week to teach a select group in a newly created vegetable and flower garden. These young men participate in a program focused on behavior modification and rehabilitation. Positive behavior earns them points, the ability to work in the garden, and care for potted plants in their rooms. What started as a group who would not look at us or talk has evolved into ones who chat away, raise their hands, ask questions, complete gardening crossword games, and are proud of their garden and what grows in it. Although they do not necessarily want to eat each vegetable we grow, their minds and horizons have expanded.

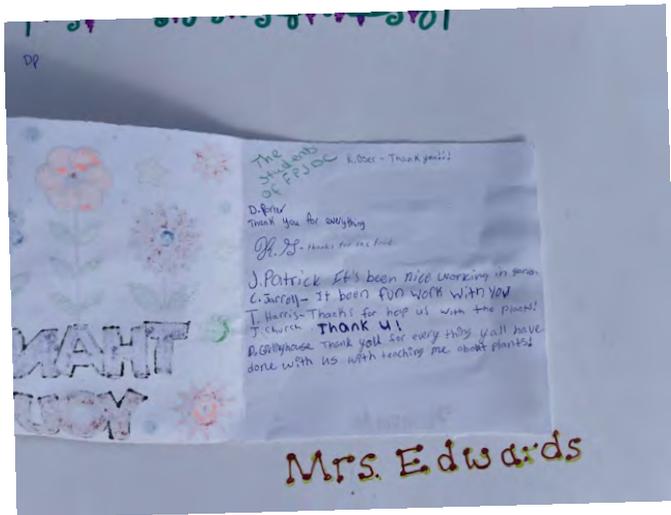


I have learned during volunteer projects that when I embed myself into the endeavor more deeply, I truly find satisfaction and happiness. Such is the case with these young men. What do we, the volunteers, get in return? We get to see boys grow into young men, graduate from high school, take community college courses, and eventually leave the JDC program. Some talk about entering their local community college. Perhaps to take more gardening classes ... because they have learned they are “good at growing things”.

As one young man said to me in mid-December, "Mrs. Foster, I'm leaving in January. You don't know how wonderful it was to have a plant in my room." Another replied, "I'm leaving in January too!" When I asked the first young man if he would take the philodendron he earned, he said he wanted to leave it for the other boys to enjoy. This young man is also growing an amaryllis and was so proud of the red flowers it created. We went through a season of summer crops, are now growing our winter crops, and have started to discuss spring crops and seedling production. The guards say even they are learning through osmosis.

Giving And Getting Back, continued

Their gifts to us: their positive attitude, inquisitiveness, and desire to do the dirty work, such as weeding. Moreover, this Christmas they gifted us with homemade tree ornaments and a poster they created and colored. So, we are as blessed to be with them, as some may say, they are of us. All we can hope is that, as volunteers, we have given them memories and support to be successful in the next stage of their life. And, while sad to see them leave our garden behind, we are so happy they are heading back into the outside world in pursuit of their future. We are grateful to have had them in our lives.



Thank you to the many volunteers who helped create the garden, gave presentations to the boys, and to those who come weekly to volunteer to work with these young men.



If you would like to work with us at FPJDC, please let me know. We could use additional volunteers. You will experience immense satisfaction.

Christine Foster
Master Gardener
FPJDC Project Chair

Louisiana Snow: *Sasanqua Camellia*

At this time of the year when many of our northern states are dealing with low temperatures and snow fall, I look out my back door and marvel over the "snow" in my yard from my *Sasanqua camellias*. And smile! I would much rather deal with this "snow" and the beautiful blossoms that produce it!



Louisiana Snow: *Sasanqua Camellias*, continued



All photos by
J. Blazek

Jamie Blazek
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THE GARDENGOER
THE NEWSLETTER OF THE
ST. TAMMANY MASTER GARDENER ASSOCIATION



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