



Trumpet Vine

*Knowledge for the Community From Loudoun County Extension
Master Gardeners*

Summer 2021

Volume XVII, Issue 3 www.loudouncountymastergardeners.org

LOUDOUN COUNTY EXTENSION MASTER GARDENER VIRTUAL TALKS

FREE AND OPEN TO THE PUBLIC
7 P.M. IN PARTNERSHIP WITH LCPL,
WITH RUST LIBRARY HOSTING THE
WEBINAR.

See [CALENDAR](#) FOR LINKS TO THE
WEBINARS.

AUGUST 5, BULBS AS COMPANION
PLANTS, BECKY HEATH, BRENT AND
BECKY'S BULBS

OCTOBER 7, PUTTING THE GARDEN
TO BED, NORMALEE MARTIN, MASTER
GARDENER

DECEMBER 2, WINTER DECORATIONS
AT COLONIAL WILLIAMSBURG

For more information, visit our
website at
loudouncountymastergardeners.org.

Visit us on Facebook:
Extension Master Gardeners of
Loudoun County, Virginia.

We Are Entering the Summer Season

As we move into summer, bed preparation and planting tasks quickly switch to weeding, watering, and maintenance.

Stiltgrass and other annual weeds should be pulled and disposed of before they go to seed. Stay ahead of the weeds this year and next year should be easier.

Spring flowering shrubs should be pruned before early July. If you prune them later in the summer, you may be cutting off next year's flower buds. These include azaleas, weigela, witch hazel, andromeda, forsythia, viburnum, fothergilla, and red twig and yellow twig dogwood.



Summer-blooming perennials can be maintained and prolonged by deadheading and regenerated by pruning. Most perennials can be pruned to half their height mid-summer (July) to encourage new growth and blooms. Remove any dead plants.

Monitor rainfall and don't depend on "the perception of rain." Use a rain gauge or local sources of rainfall measures. When possible, early morning watering is preferable, but anytime is preferable to not watering when plants are stressed.

Enjoy your summer garden.

The Beauty of Vertical Gardening

Bosco Verticale is a gardening and architectural marvel. This 10,000 square meter vertical forest in Milan extends a tradition celebrated in the ancient Gardens of Babylon of taking gardening to new heights. It is an inspiration for what is possible when we consider how to extend our space for gardening.



Bosco Verticale is a planned 10,000 square meter urban forest in Milan Italy. Photo by Stefano Boeri.

While most of us do not aspire to gardening on this scale, almost all of us who garden wish we had more space, especially to accommodate sprawling plants and vines. Whether working within a suburban garden plot or on one of Loudoun's townhouse or condo balconies, vertical gardens can be a solution for growing members of the Cucurbitaceae family.

Also called cucurbits, the gourd family includes 965 species of which the most popular for home gardens are cucumbers, gourds, loofah, melons, pumpkins, and squash.

The raised beds in my garden are a case in point. At 2 by 6 feet, squash plants routinely spill over into the walkway between the beds (and sometimes right into the next bed over.) So last summer, I tried my hand at vertical gardening by adding 5-foot vertical supports, thereby expanding my growing space from 12 square feet to 60. Elevating the vines not only increased growing space, but also increased the amount of light and air flow, critical for disease-free and beautiful looking fruits. It prevented browning and mold from surface contact and made harvesting easier.



Vertically Growing Pumpkins on an A Frame (Permaculture Stacking) from [GrowingGarden](#).

The end result was my best squash crop ever in terms of quantity, size, and blemish-free fruits.

Most gardeners are already familiar with the concept of vertical gardening as a means of managing tomato plants. The concept for cucurbits is similar, except that a single stake and ties are replaced with more substantial infrastructure.

There are many options to consider when choosing supports ranging from wooden stakes to metal fencing panels to trellises. To hold the weight of the vine and fruits, insert stakes and canes at 8 to 12 inches below the surface, trim the bottom leaves, and tie the plant in with fabric strips, ties, or plastic tape from the nursery. For heavier melons, a metal fence frame or other similarly heavy support may be required. Online garden stores also offer slings for heavier fruit that can provide additional support to the vine. Patio gardeners can train potted plants on a trellis anchored to a wall or build a support between two pots on which to train the vine.



Gourd tunnel from <https://www.gardensall.com/vertical-garden-ideas/>.

Some gardeners have taken vertical cucurbit gardening to a whole new level, making this utilitarian practice an aesthetic one with beautiful archways of squash and pumpkin vines revealing dangling, ornamental fruits in vivid colors. It shows once again the way that gardening can be taken to new heights.

Stephanie Meeks, Loudoun County Extension Master Gardener Intern

Know Your Weeds

Ralph Waldo Emerson: "What is a weed? A plant whose virtues have not yet been discovered."

Master Gardeners: "A weed is a plant growing in the wrong place."

If you do any kind of gardening, the need to weed is a given. Some people enjoy weeding; others hate it. Some people need to remove every weed; others have a more relaxed attitude and may even appreciate some weeds. One way to make weeding more interesting is to approach weeds as you approach your desirable plants: learn a weed's name and origin, find out if it has any interesting uses, learn its life cycle and how best to care for it, or in most cases, how best to kill it! Or you may decide that it's not a weed after all.

Learn the botanical name. Common names for weeds are more diverse and confusing than names for garden plants. Weeds frequently disguise themselves as a garden favorite and then establish a foothold that's hard to root out. Here are some plants to ponder.

Dame's rocket, *Hesperis matronalis*, masquerades as tall native phlox, *Phlox paniculate*. Dame's rocket was introduced from Europe in the 1600s for use as a landscape plant. It has escaped from the garden and romped across the country. Blooming earlier but looking like wild, roadside phlox to the casual observer, dame's rocket flowers have four petals to the five petals of phlox. Is dame's rocket a weed or a garden plant? It appears to have allelopathic tendencies similar to garlic mustard (both plants are in the mustard family). In some areas of the country, it is classified as a noxious weed; in other areas it is not. But it is advised that you treat it as a weed in your garden.



Dame's Rocket. [OSU Extension](#). Photo by Beth Schecklehoff.

Fleabane, *Erigeron annuus*, is a native in the daisy family found throughout the United States and Canada. The USDA has identified 170 species in the U.S. and 390 species worldwide. It loves disturbed areas, pastures, abandoned fields, vacant lots, and roadsides, so it is commonly considered a weed. It has a wide range of uses in traditional medicine (antioxidant properties), but contrary to its name, it does not repel fleas! Its leaves and flowers can be included in salads, and it can be dried and smoked, or used as a tea. The flowers attract many small bees and flies; small rodents eat the seeds. The flower is small but attractive. Finally, since ancient times it has been used to exorcise demons. So, think before you pull it!



Annual fleabane. [Courtesy Wikimedia Commons](#). Photo by Salicyna.



Ladysthumb. [Courtesy UMass Weed Herbarium](#).

Ladysthumb, *Polygonum persicaria*, a member of the knotweed family, is native to Europe and Asia and is now found throughout North America. This annual reproduces by seed and is most commonly found in disturbed soil. Native Americans used the leaves as treatment for poison ivy and stomach pains. It also has antifungal properties. The stems, flowers, and leaves can all be eaten cooked or raw. It has a mild taste, similar to lettuce. In our gardens, this is not an aggressive weed and one that you can choose to live with or eat!

Common purslane, *Portulaca oleracea*, is a highly variable, weedy plant with a wide distribution. It is now naturalized in most parts of the world, both tropical and temperate. It has been grown for more than 4,000 years as a food and medicinal plant and is very nutritious. It is unusually high in omega-3 fatty acids and contains significant amounts of vitamins A and C, as well as calcium, iron, magnesium, potassium, and antioxidants. It is equally at home in flower beds, cultivated fields, and roadsides. While it is easily dug or hoed out, cut stems from larger plants will root readily at the nodes to become reestablished, and seeds will mature in the pods even if the plant is pulled and left with its roots turned upward. Seeds can remain viable in the soil for several decades. The plant is frost tender and will be killed by the first freeze in the fall.



Common purslane Fleshy leaves with reddish stems.
Courtesy Wisconsin Extension



Mugwort. Photo, Carol Ivory.

Mugwort, *Artemisia vulgaris*, is a persistent weed, but it is also a member of the Artemisia family of healing and beneficial herbs, related to sweet Annie. Throughout Europe and in traditional Chinese medicine, people have used mugwort as a treatment for a variety of health conditions. When crushed, the leaves produce a strong aroma, somewhat like sage. Mugwort is a hardy perennial. Its leaves look like chrysanthemum leaves with smooth, dark green upper leaves and a lighter green underside that is hairy. It is a significant challenge to remove because it spreads aggressively through rhizomes as well as seeds. Regular pulling

and digging are the best approach; an alternative is the use of herbicide. Do not let mugwort get a foothold. This is a very undesirable weed.



Stiltgrass growing up through green and gold. Photo, Carol Ivory.

Japanese stiltgrass, *Microstegium vimineum*, is an annual weed native to most of Asia as far west as the Caucasus Mountains. Around 1919 it was found in Tennessee, most likely introduced through its use as a packing material. It has now spread through most of the eastern U.S. Japanese stiltgrass takes advantage of shaded areas but can proliferate in sunny openings as well. It seeds prolifically and quickly spreads to new areas. Areas infested with Japanese stiltgrass have decreased biodiversity. In addition to the early-season plants that are typically crowded out by invasive species, late-season grasses, sedges, and herbs are also affected.

Grazing animals do not eat stiltgrass, which adds to its ability to take over an area. A 2010 study indicates that Japanese stiltgrass has allelopathic potential to inhibit seed germination. This weed has no redeeming value.

The strategy for getting rid of any annual is to prevent it from going to seed. I tend to pull stiltgrass as I see it growing in beds, but the literature suggests that pulling it early in the season may simply stir up the seed bank and get new plants growing. I will still pull it for appearances sake but pulling, mowing, or weed whacking in mid-August and early September will prevent it from flowering and going to seed. Constant mowing will cause it to grow lower and still go to seed. For more on stiltgrass see this [USDA publication](#).

Carol Ivory Loudoun County Extension Master Gardener

Square Foot Gardening

Square foot gardening is a method that was created in 1976 by Mel Bartholomew as an alternative to labor intensive gardening. This method is beneficial to gardeners who don't have much time or yard space, and it allows a high yield from a small area. This method also is great for beginning gardeners and for gardening with children.

At this time of year, you have already prepared and planted your spring garden, but it is not too late to plan and build your square foot garden for either fall plantings or to be ready for next spring. Assess your current garden over the growing season and decide if square foot gardening would be beneficial to your situation given your time available, space, desire to weed, and how well your garden is doing this year.

Square foot gardening typically starts with a 4-foot x 4-foot raised garden bed subdivided into 12-inch squares with markers like lattice strips or string but can be squares of any material. You don't have to own power tools or work with wood to start your square foot garden bed. In fact, it can be raised soil without sides at all or cinder blocks stacked together using the square in the cinder block to plant in, as an example. Also, there are commercially available raised bed kits.

Important things to consider are:

- Choose plants by size and by what your family loves. For example, multiple carrot plants may be planted in a single square but for a tomato or cabbage plant you would only plant one and you want to plant something your family actually wants to eat.
- Trellises or cages may be added to support plants and vines.
- Plant in a location with 6 to 8 hours of full sun.
- Make sure a water source is nearby and the location is convenient.

Steps for a square foot garden are:

1. Build the raised bed 4x4 feet. This allows reaching the middle from any side. This size divides easily into a grid of 16 1x1-foot squares. Make your sides at least 6 to 12 inches deep.
2. You may want to consider adding fencing to keep wildlife out.
3. Fill the raised bed with nutrient-rich soil. Cover with a layer of mulch to keep weeds down.
4. Plant your favorite vegetables; consider the scale of each plant once grown.
5. Water.
6. Weed.
7. Inspect for pests.
8. Harvest the vegetables.

I was an accidental square foot gardener when I started a project with my then 2-year-old granddaughter and have planted our garden each year ever since. We initially planted several cherry tomato plants because that is what she would eat, green peppers, cucumbers, and herbs in pots. Each day she would come out to harvest! So, if working with young children, it is key to plant something that continues to produce throughout the summer and something they like to eat.



Pictured here is our garden we laid out in early spring. My granddaughter painted rocks to help decorate the garden and once it was planted, she moved the rocks where she wanted them giving her creative input. We also created the plant markers together. I also have seen raised beds where children have drawn on or painted the sides.

The garden is right next to our patio, making it easy to tend and very near our water source. We have had a lot of fun planning, planting, and then sharing in watering and harvesting each year.

Themed gardens can be fun; examples are salsa garden, herb garden, or mixed-up garden. We have herbs in pots but our next project is planning where to put a square foot

herb garden.



If you find in your current garden that you are spending too much time pulling weeds and have more garden than you bargained for, square foot gardening may be just right for you. Even if you just want a small garden for herbs or a variety of peppers or other favorites, try square foot gardening. Enjoy your harvest and gardening with someone you love!



Sandy Smallwood, Loudoun County Extension Master Gardener Intern

Dioecious Hollies or Why Your Holly Might Not Have Berries

Few shrubs are as ubiquitous and versatile as hollies, also known as *Ilex*. There are more than 400 different species of hollies, and we love them for the dependability in the landscape, for the bright green leaves in winter, and especially for their berries in winter which are much loved by



Our native holly, *Ilex opaca*. Courtesy [Piedmont Master Gardeners](#), Photo by Pat Chadwick

wildlife. But if you have a holly and you do not see berries it might be for one of two reasons. Perhaps the birds get to the shrubs before you notice. Holly berries are devoured by mockingbirds, cardinals, and cedar waxwings. I've known them to devour all the berries within one afternoon. The second reason for a lack of those beautiful berries is because you are not aware that holly is DIOECIOUS. Hollies have a secret sex life; they are one of the few plants that have either male or female flowers. Forget the whole biology lesson of pollination, pistol and stamen, Holly is DIOECIOUS,

which means holly bushes are either male or female. Male flowers are on one plant and female flowers are on another.

Both the male shrub and the female shrub will put forth some flowers, but the female shrubs may not produce the desired berries in late fall or winter. In most cases a quarter mile is close enough for pollination and production berries. One male for every 5 to 6 females is a good ratio.

Gardeners will often plant the non-berry producing male behind a group of females or in another place in the landscape. That is enough to ensure pollination.

So, aside from peeking under their bloomers, how do you know if you have a male or a female holly? You can't really tell unless you buy the holly. Most reputable nurseries will label their hollies male or female. It is also helpful to do some research before you buy. Information on plant labels at nurseries can be confusing and incomplete.

But now to confuse you even more. Two of the most popular hollies are Nelly Stevens and the Burford Holly. You might have them in your landscape and you're wondering why you have



Nellie Stevens Courtesy [Missouri Botanical Garden](#)



Burford holly Courtesy [University of Arkansas](#)

berries. Plant breeders developed specific cultivars to produce the desired berries without a pollinator. Nelly Stevens the Burford hollies are PARTHENOCAPIIC. And, best of all, these berries are sterile, which means that you won't have hundreds of seedlings under your hollies.



***Ilex verticillata* or Winterberry in the fall. This holly is deciduous. It loses its leaves and displays just its dense number of berries in the winter. It is a stunning ornamental that the birds love.** Photo by Carol Ivory

There are more than 400 species of hollies to choose from, including the English, Japanese and Chinese hollies, the Yaupon, the inkberry, the Winterberry and its well-known cultivar, Sparkleberry, and our native *Ilex opaca*.

Fortunately, most of these cultivars are paired, so that the female holly has an associated male holly. At most nurseries you will find the male and the female paired together. For example, the holly Emily Bruener comes with James Swan. Jersey Princess is paired with Jersey Knight. Sparkleberry comes with Apollo. And Afterglow is paired with Jim Dandy. Each female will produce berries when paired with the associated male holly.

The native holly, *Ilex opaca*, unfortunately, cannot pollinate the cultivars.

There are several other trees and shrubs which are DIOECIOUS: aucuba, junipers, spicebush, bayberry, buckthorn, and yews. As well as some trees: boxelder, white ash, ginkgo, red cedar, Osage orange, aspens, and willows. But, except for the spiceberry, they are not usually grown for beautiful berries so it is not important to consider pairing a male and a female shrub. In fact, if you plant a ginkgo, you will definitely want the male tree, so you don't have those stinky, squishy fruits all over.

Twenty years ago, I planted five Sparkleberries outside my window, hoping to enjoy the birds feasting on the berries in the winter. I did not know that sparkleberries were dioecious, but each winter I'm delighted to see tons of bright red berries. Somehow, somewhere, somebody must've planted my sparkleberry's mate, Apollo, allowing me to enjoy my gorgeous sparkleberries -at least until the birds find them!

Linda Ward, Loudoun County Master Gardener Intern

Plant for the Future

Driving on Route 7 in to work on a misty March morning in 2016, I was going by the budding OneLoudoun complex and did a double take. I saw a brand-new colonnade of trees planted along what is now called Atwater Drive, but back then was the unfinished north edge of the development. It was a matching group of 15 maple trees, each with a height of around 30 feet and a diameter of 14 inches. These were huge trees planted to give the effect of a beautiful welcoming forested edge into the new OneLoudoun complex. I was not present when these were planted, but they would each have come held in large tree spade trucks used for transplanting such size plants. The cost would have been enormous.



15 large maples installed in spring 2016.

All photos by C. Anderson.

The spring of 2016 turned out to be very wet. This



Trees struggling in spring 2017.

would have helped in the beginning. That would have encouraged new root growth after the transplant. The circumference of the disturbed area around each tree was approximately three feet from the trunk. That was where the remains of the original root system ended. All of the trees leafed out by summer. Two were leaning off center about 10 degrees. Eventually, water bags and guy wires were installed. In the fall, two trees were already in distress, dropping their leaves early.

In the spring of 2017, one tree was dead, and more were struggling to leaf out their canopies. The leaves were small and some looked spotted with disease. Guy

wires were still in use, but the water bags had been taken off through the fall and winter months. By June, four trees were removed. Water bags appeared again in July. At that time another of the trees was dead and three others had sparse growth. In October, what little foliage that was left on the trees had changed to a sickly yellow. On many of the trees, bark had started to peel off the upper branches. Two of them had produced a massive number of samaras. By the end of the year, seven trees were left out of the 15 planted.

When 2018 came, the seven trees limped back into leaf production with only a few branches still alive. Only four survived to the next year. Then only three remained by the end of 2019, and all were taken down due to disease in 2020.

The reason I followed the lives of these trees was because I could not wrap my head around the fact that the OneLoudoun complex wanted instant gratification over healthy long-lived trees for the future. If they had planted 15 4-inch-diameter trees, by the year 2020, they might have pulled through 11 and they would have been nearly as tall and healthy as the original maples prior to their transplanting.

Tree roots usually grow down within the top 18 inches of the soil. Root systems on large trees can easily spread out double the width of their canopies. When these trees were transplanted and only about three feet around the trunk of their original surrounding soil was present, it meant a substantial amount of their root system was cut off. The small feeder roots at the very ends of the root system are the ones that bring in the most nutrients and water. All of these were gone. In order to feed themselves, the large trees had to develop new feeder roots and shut down some of their branches that could no longer be fed. The wet spring would have encouraged this growth. Unfortunately, the watering was inconsistent. The trees were instantly put under stress to rebuild large root systems to accommodate their crown branches. If a smaller tree had been planted properly with an intact root system, the tree would

have only had to deal with transplant shock and not root pruning also. If watering had been consistent and over several years, the smaller tree would have had the better chance of survival. Even if there might have been a soil-borne disease in the area, the tree might not have had an issue with it since its roots would have been intact and under less stress.



October 2017. Bark peeling off dead limbs.



Late 2017. Sickly leaves.

The second year into planting, the trees started to show the strain. Few maple tree diseases exist, and most of them do not kill a healthy tree. They show up as spots on the leaves. When spots started to develop on the leaves, nothing was done.

When landscaping like this occurs, after the initial planting and possibly through the first year's care, the original company is done with the project. They do not troubleshoot any problems. The landscape company that takes over only mulches and possibly waters. No one was there to say, "Hey, look at these leaves, there's something wrong."

And there was something wrong. Under stress, the maples contracted verticillium wilt. This soil-borne fungus is transmitted through infected soil or pruners. The fungi block the transport of water and nutrients through the tree's vascular system. In spring, buds fail to open, leaves look scorched, and entire branches turn brown and die back. Dark streaks show beneath the bark and dark stains flow in the grain creating bark separation from the limb. There is no known chemical control.

Maybe the OneLoudoun company was misinformed, or maybe they didn't want to wait. The trees they transplanted had an exceptionally low chance of surviving, but boy did they turn my head when they appeared. Is that all they were looking for? The money spent on the whole landscaping project could have probably bought three times the number of trees and labor if they had looked at smaller transplants.

It is hard to wait for a tree to grow. It takes years and a tree can die of many things before it gets large. Planting trees is the best way to have faith in the future. Looking ahead in anticipation of a beautiful white oak or a graceful Norway spruce is a great way to measure time. Plant for everyone's future; patience is rewarded.

Cathy Anderson, Loudoun County Extension Master Gardener Tree Steward

Rattlesnake Master, a Virginia Native

Description

Rattlesnake master is an herbaceous perennial that has a wide native range from the mid-western prairies to the east, from Virginia to Florida.

Its common name comes from the erroneous notion that the plant's root was either a preventive or an antidote for snake bites, as was believed by Native Americans and early herbalists. Its botanical name is *Eryngium yuccifolium*; *Eryngium* is Greek for "prickly plant" and *yuccifolium* is Greek for "yucca leaves."

Its leaves are thick, sword-shaped, and spiny with a bluish hue, reminiscent of the yucca plant in shape and color. However, rattlesnake master is in the carrot (*Apiaceae*) family. The leaves typically grow up to two feet long and are arranged in a rosette pattern. Flower heads appear clustered on tall stems with up to ten flower heads per stalk. The globe-shaped flower heads are ½ to 1 inch in diameter and are composed of many individual flowers. White bracts poke out from the flowerheads, which resemble the rough, prickly appearance of thistles. Plants with stems and flowerheads are typically three to four feet tall.



Photo by M. Judd.



<https://www.minnesotawildflowers.info>.



<https://www.minnesotawildflowers.info>.

Rattlesnake master usually blooms June through September.

Culture and Care

Rattlesnake master prefers full sun and medium but well-drained to dry soil. The plant is very draught tolerant. The plants will tolerate clay or gravelly soils and are well-suited to a rock garden. The tall flowers are more likely to flop when placed in shade or in moist or overly fertile soils.

As an addition to the home garden, rattlesnake master is considered easy-care. The plant is unpalatable to rabbits and deer and is not typically bothered by disease or insect infestations.

Uses

The flowers, which have a faint honey scent, are a favorite of a wide variety of native insects. They are frequented by monarchs and other butterflies, skippers, and soldier beetles. Other beneficial pollinators include native bees, wasps, and flies. Rattlesnake master is the host plant for two moth species, the rattlesnake master stem-borer (*Papaipema eryngii*) and *Coleotechnites eryngiella*. Black swallow tail caterpillars (*Papilio polyxenes*) will also occasionally feed on the leaves of rattlesnake master. In short, this plant is a valuable asset to a pollinator garden.



Photo by M. Judd.

Rattlesnake master plants provide unique and strong architectural interest in the garden in terms of both form and texture. As an ornamental, they make a striking specimen. They look nice in mass groupings because the plants can give each other support. They also pair well with other tall prairie flowers with color, such as echinacea, anise hyssop, or *liatris*.



Photo courtesy of <https://www.gardenia.net/plant/agastache-black-adder>.

When left to overwinter, rattlesnake master offers both winter interest in the landscape and seeds for nonmigrating birds.

Propagation

Rattlesnake master can be grown from seed. Plant seeds ¼ inch deep in the fall, because they need overwinter stratification. Or new young seedlings can be planted or transplanted in spring or fall. Once established, the plants are not as easily moved due to a deep central taproot. Established plants will modestly self-seed.

Availability The following are several Virginia native plant nurseries that stock rattlesnake master. Contact them for current availability. Rattlesnake master is also commonly available from mail-order native plant suppliers.

Watermark Woods <https://www.watermarkwoods.com/>.

Hill House Farm and Nursery <http://hillhousenativeplants.com/>.

Seven Bends Nursery <https://sevenbendsnurserystore.square.site/s/shop>.

Article Reference Sources

<https://mastergardener.extension.wisc.edu/articles/rattlesnake-master-eryngium-yuccifolium/>.

https://plants.usda.gov/factsheet/pdf/fs_eryu.pdf.

<https://www.fs.fed.us/wildflowers/plant-of-the-week/Eryngium-yuccifolium.shtml>.

Marcee Judd, Loudoun County Extension Master Gardener

***Monarda citriodora* (Annual Monarda)**

(Mo-NAR-da sit-ree-oh-DOR-uh)

(Lemon mint, horsemint, purple horsemint, plains horsemint, lemon horsemint, purple lemon mint, lemon bee balm, and lemon bergamot)

When we think of monarda, we usually think of the perennial types that are widely grown in pollinator gardens. However there are also four *annual* species. While none of them is native to



M. citriodora growing wild on the Trinity Trail in Texas. Photo by Steve Standeford. Creative Commons, at <https://flic.kr/p/Hgv45G>

Virginia, one is, nevertheless, of interest to the gardener, specifically *M. citriodora*, most commonly called lemon mint or horsemint, among other names. If you want to have a large stand of monarda in your pollinator garden quickly, annual monarda is the one to grow.

As with the perennials, annual monarda is a magnet in pollinator gardens where it attracts bees, hummingbirds, butterflies, and moths. It is useful in cutting gardens, in flower beds, in cottage gardens, and in herb gardens. It will naturalize in wild areas (for example in a meadow garden) where if happy, it will reseed to the point where it can even become aggressive. And as with other monardas, annual monarda is resistant to deer and rabbit predations and is also juglone tolerant, so it can be grown near black walnut trees.

Both the flowers and leaves are fragrant, with a distinct lemon (and in some cases oregano) fragrance, giving rise to the common name lemon mint as well as the scientific name, *citriodora*.

Lemon mint typically grows one to two feet tall (but sometimes up to three feet) and about 12 inches wide (but occasionally up to 18 inches). It is a winter annual and if sown in the fall, will begin blooming in the spring, possibly as early as May. If sown in early spring, it will begin blooming later. In either case, it will continue blooming well into and past midsummer if it is kept watered during dry weather.

Annual monarda is a low maintenance annual, fairly tolerant of its environment. In its native habitat in the west and south, it grows on mesas and slopes and in prairies and grassy meadows. It is found in a variety of soils including sandy, medium, and clay loam, as well as rocky soils and limestone soils. It does require full sun (at least six hours a day) although it will tolerate part shade, resulting in diminished bloom.



M. citriodora is a pollinator magnet. Photo by Ken Slade. Creative Commons. <https://flic.kr/p/57K8sv>

Hybrids and cultivars: There is only one *M. citriodora* hybrid available for sale, specifically, *M. citriodora* Bergamo, which is actually a short-lived perennial grown as an annual. It has intense, dark rose-purple flowers, and the plants tend to be shorter than the species (only about 20 inches

tall) and have somewhat smaller flowers (to only 1½ inches). Because of its smaller size, Bergamo would be suitable for container culture. In Europe, it was the 2008 Fleuroselect Award Winner, so it obviously does well in that environment. When Mt. Cuba Center in Delaware conducted a multiyear study of monardas in 2014 to 2016, it unfortunately found that Bergamo was less vigorous than the species and more likely to flop over. Given that it is an award winner in Europe, this may be a problem peculiar to the mid-Atlantic region. Perhaps it would perform better in other areas. Obviously, there are plenty of possibilities for plant breeders to experiment with this species to develop exciting new cultivars perhaps better adapted to our region. (The Mt. Cuba study is at <https://issuu.com/mtcuba/docs/monarda-report-final?fr=sM2VjNDlONjAxNDg> and is well worth reading by anyone interested in monarda.)

Flowers: The elongated flower spikes consist of two to six separate whorled flower clusters, each about 1½ to 2 inches wide. Directly beneath each cluster is a whorl of white, pinkish, or lavender leaf-shaped bracts. Each cluster consists of numerous individual, tubular, two-lipped flowers. Each of these small flowers is only about ¾ of an inch long and ranges in color from light pink



Flower cluster showing individual flowers. Photo by Billie L. Turner Plant Resources Center, The University of Texas at Austin.
<https://warcapps.usgs.gov/PlantID/Spec>

(occasionally white) to deep purple. In the aggregate, although the actual flowers are tiny, the whorled, fragrant flower heads are very showy.

For flower arranging, cut the flowers when they are almost completely open. For dried flowers, let the flowers open completely, then cut and hang to dry.

The flowers are edible and may be added to green and fruit salads, as garnishes for desserts and drinks, or sprinkled over mild-flavored fish.

Stems and leaves: Monarda's 6-to-24-inch-tall stems are green or reddish, slightly hairy, and square, as is typical of the plants in the mint family of which it is a member.

The toothed, slightly hairy, lance-shaped, and narrow citrus-scented leaves range from 1 to 3 inches long. They are opposite for most of the stem length but just under the first whorl of bracts and flowers, they sometimes break that pattern and whorl also.

The leaves are edible and can be used raw in salads, as seasoning in cooked foods, for tea, and in potpourri. They also reportedly may be crushed and rubbed on the skin where they act as a natural insect repellent.

Planting:

Annual monarda is easy to grow from seed. In fact, if you don't remove the seed heads before they ripen, you'll probably have some self-sown seedlings in the garden the following year. Seed packets are readily available from numerous online and mail order sources.



Cross section of seed head, with square stem bisecting the flower through the center. Photo by Jim Conrad, Public Domain,
<https://www.backyardnature.net/n/h/beebalm.htm>

Sow seeds either in the fall or early spring. No matter when you plant them, barely cover the seeds with soil (light helps them germinate) and keep the seedbed moist after sowing.

For spring-sown plants, sow the seeds inside 7 to 9 weeks before the last frost; they take 10 to 14 days (but sometimes as many as 30 days) to germinate at 68 to 72°, and 14 to 16 weeks from seed to bloom. So if you're sowing in the spring, you'll want to get an early start. Once they have germinated, handle as you would any flower or vegetable for transplanting.

You can also sow directly in the garden after the last frost, for later bloom. Given the long seed-to-bloom timeline, however, this doesn't seem like the best choice. With a mid-May sowing, the plants won't start flowering until approximately mid-to-late August.



Dried seed heads, in a meadow, showing spacing between what were flower clusters. Photo by Jim Conrad, Public Domain, at <https://www.backyardnature.net/n/h/beebalm.htm>

If you are sowing a large area, such as a meadow garden, spread the seed evenly and rake it lightly into the prepared seedbed, taking care to just barely cover the seeds. It may be more difficult to keep a meadow seedbed moist, so a fall planting is probably the most practical choice in this situation, letting autumn rains do the watering job for you.

Whether you sow early inside or sow the seeds outside later, keep the seedlings watered until they are about 10 to 12 inches tall, by which time their root systems will be well established.

Seeds sown in the fall, either by the gardener or self-sown, will come into bloom as early as May the following year. If fall-sown plants are not watered during dry summer weather, they will bloom only until July; if watered, however, they can continue blooming into the fall.

Plant annual monarda 12 to 18 inches apart in the garden, with the greater spacing being preferable from the standpoint of air circulation and mildew prevention.

Soil: In nature, annual monarda tolerates a wide range of conditions. In gardens, any moderately fertile, moist, well-drained soil will do. Rich soil and abundant moisture should both be avoided--the plants can grow too tall in these conditions and topple over. If you have a difficult, sandy or somewhat rocky area, given its native habitat, this might be a plant to try in that space, particularly if you can keep it watered during dry weather. It prefers neutral to alkaline pH soils.

Flower stalk with three floral whorls. Notice the leaves below the flowers are whorled. Photo by Larry Allain, U.S. Geological Survey, <https://warcapps.usgs.gov/PlantID/Species/Details/1851> (Image #6)



Caring for Monarda:

Watering: *Monarda citriodora* doesn't need watering once it is established, but watering during dry spells prolongs the bloom to perhaps as late as August, September, or even October.

Fertilizing: If the plants are grown in moderately fertile soil, annual monarda requires no fertilizer.

Deadheading: With deadheading, you have three choices:

- Deadhead frequently throughout the season to prevent seed heads from forming and to prolong the bloom.
- Leave all the flowers on the plants and let them go to seed, really not a good idea in a cutting garden, bed, or border, but fine in a naturalized area or meadow garden.
- Deadhead flowers in a naturalized area early in the season to prolong the bloom and then, in midsummer, stop deadheading to encourage seed production and self-sowing for next year's flowers. If you remove some of the seed heads from the plant to sow more seeds elsewhere, remember that the seed heads need to turn completely brown and dry before you do so. Note that from bloom to ripe seed takes about two months, so keep this timetable in mind when deciding when to stop deadheading.

Your choice will depend on your garden site and objectives. There is no wrong way to do this.

Pests and disease: As with other monardas, powdery mildew can be a problem, but *M. citriodora* is not as susceptible as some of the perennial species. In fact, the Mt. Cuba Center study found it to be highly resistant to mildew during the three-year study period. Even if attacked, while the damage is unsightly, it generally won't kill the plant. Poorly grown, crowded plants, or those in an area with poor air circulation, are naturally more susceptible than those grown in better conditions, which are happy in their site. Susceptibility increases if the plants are stressed by drought. This can be prevented simply by watering when there isn't sufficient rainfall available.

Lina Burton, Loudoun County Extension Master Gardener



M. citriodora in the Wichita Mountains. Photo by Larry Smith. Creative Commons.
<https://www.flickr.com/photos/lsmith2010/7282533734>

COLEUS: A Splashy Ornamental Plant for Shade to Part Sun

Mention “coleus” and some might think “garishly colored dumpy blobs with nothing to offer besides colored leaves in more or less the same shape and size.” But many others (including myself) will exclaim delightedly “what a wonderful plant” and then unabashedly grow every and any variety available!

Traditionally, Karl Bloom (botanist and plant explorer) is given credit for discovering coleus (*Coleus scutellarioides*); however, as we know this plant today, it is more likely the result of various species and cultivated forms developed over hundreds of years; somewhat of an essentially “unpedigreed mongrel.” Coleus is a plant (annual, except in Zones 11 and higher) that has been around a long, long time, has enjoyed intermittent revivals, and is currently enjoying a significant comeback.

Coleus was a BIG hit in Victorian gardens of Great Britain and the United States but seemed to fall out of favor for quite a while with plant fanciers; however, coleus enthusiasts (of which I am one) have continued to enjoy them unabatedly. In today’s market, an explosion of coleus is available for our gardens, particularly the shade garden. Unlike many plants that have official organizations that oversee naming cultivars, there is not one for coleus; consequently, it is not uncommon to see the same coleus in nurseries or publications under varied names, so if you’re seeking a specific genre, beware! Because coleus mutates frequently, reversions appear regularly and hybridization is common and often geared to market demand, hence those that are now (fairly) happy in sunlight.

Coleus belongs to the mint family; all varieties bear bilabiate (two-lipped) flowers and many feature distinctive square (four-sided) stems. Coleus provides season-long color over the entire plant inasmuch as its leaves are its showcase. Whether a gardener wants a single bright color to provide a continuous flush and brighten a shady spot, perhaps to set off or unify other plant colors, or a darker more mysterious tone to draw one into a closer look, there is likely a variety perfectly matched for any location. Mostly, the form or structure of coleus is one of “formlessness” meaning an indistinct, primarily irregular shape depending on how the plant is grown and trained. Specific varieties, however, have a more upright shape. Leaves are the plant’s greatest asset and range from either fine or coarse, bear jagged, curved or, smooth edges, and are quite large to tiny in size. Coleus plants vary widely in size, from 1 to 3 feet in height with similar spread.



This beauty draws one’s focus immediately.

Photo, Pamela McGraw



En masse, it's quite the stunner, yet also a filler. (Photo courtesy [MO Botanical Gardens](#)).

The range of variation of coleus contributes to its success in a container and permits its beauty to be enjoyed more closely and in differing locations. Actually, they often perform better in pots than in the ground, given our propensity for clay soil, which guarantees its demise; a loose moisture-retentive potting mix in a roomy (minimum 10 inches) pot will satisfy the needs of most coleus, so long as regular watering is provided. As with most container-grown plants, plant growth will dictate frequency of watering as well as pot size. In a garden, coleus can easily fill the role of a border plant, a feature plant, or a filler within a larger bed.....the ultimate versatile plant that does so much more than simply be green. Some trailing varieties are ideal for a hanging basket.

Some coleus varieties will have "sun" in their cultivar name. Typically this refers to the plant's ability to "tolerate" more sun than those grown in shade. Most coleus varieties so designated will thrive with a few hours of direct sun and regular moisture. Leaf color and thickness will dictate its ability to handle sun. Gradual introduction into the sun for these varieties will help in their adjustment. In a perfect world, most coleus varieties will be happier in a dappled (morning sun/afternoon shade) shade area. A location in deep shade may result in spindly stems, thin leaves, and widely spaced nodules, producing a very open, sometimes sad-looking plant. Although the vast majority of coleus varieties grow into mostly dense spreading mounds, some cultivars curve and cascade.



This lush basket hung on my semi-sunny deck. Coleus partnered with a begonia (corm).

Leaf colors range from red to yellow to green to purple to black; patterns range from flecked to bold, solid, edged, or irregular....all are interesting additions to any garden.

There is hardly an easier plant to propagate. Success is common whether by seeds that readily germinate or by cuttings. Some find the easiest method is to cut a few inches off the end of a shoot and place the cutting in a container of water whereafter roots quickly appear. When the roots reach an inch or two in length, the cutting should be potted in a loose growing medium (vermiculite). Because roots produced in water have a less sturdy tissue structure than those produced in soil, the sooner the roots can make the transition from water to medium, the more quickly the plant can establish itself. Alternatively, a fairly short cutting (2 inches) from the tip of a stem can be inserted top end up, so that the shoot's tiny leaves sit above the leaves occurring at the nodes (where excess leaves were either removed or reduced in size), into a growing medium. While a rooting hormone, either powdered or liquid, may promote quicker root development, it is not necessary. Maintain humidity around the cutting by containing it within a clear plastic bag or box and provide bright light, not direct sun, or indoor fluorescents. Though some wilting is often observed soon after cutting, most will rebound with proper humidity. Under optimal conditions, rooting should occur within 7 to 15 days. Often in late summer or early fall, I'll take cuttings from coleus I want to overwinter for next year's garden.



These cuttings remained quite happy in my sunny window throughout the winter, allowing for fresh cuttings in early spring (less the purple Persian Shield in foreground).



These were also cuttings but remained under lights throughout the winter.

Most often, however, I start coleus from seed as I enjoy the variety it affords, and it's easy with an indoor light setup. Two of my favorites are limelight and black magic (both pictured below). In these photos, the plants are about 8 weeks of age and right ready for the garden, assuming we're not hit with a late spring frost! These plants "graduated" to 4-inch pots only 6 weeks after seeding and are currently bursting through the finish line, heading toward the garden.



Limelight.



Black Magic.

After planting, the only special attention most coleus plants need is a little pinch on the tips now and then to promote bushiness. This also helps prevent premature flowering, a signal to the plant that the end of its life is nearing. Flowers on a coleus plant are insignificant in comparison to its foliage; I usually pinch them off soon after they appear.

Coleus plants are generally easy to grow and have few problems with disease or insects. There is, of course, one exception (at least in my garden) and that is snails, which I must often either pick off or treat with pellets if drastic measures merit it! (Holes in the beautiful leaves are simply not acceptable!) Fortunately, snails mostly diminish by early summer. Some report spider mites or mealy bugs can be problematic, but I have never experienced either of these problems when coleus varieties are grown under proper conditions and their minimal needs are met.

I have intentionally omitted mentioning more specific varieties because they are surely too numerous to name. Don't be content with only the same old, same old selections one finds in big box stores; rather, expand your horizons and join me in the "coleus pool." Whet your appetite with a quick web search to gain inspiration and find the exact color combinations that fit your garden. My choice plant supplier of more unique varieties is Rosy Dawn Gardens (<https://rosydawngardens.com>). For coleus seeds, I find Swallowtail to have the widest (and most viable) selections. (<https://www.swallowtailgardenseeds.com/annuals/coleus.html>).

And, of course, there's always more to learn.....

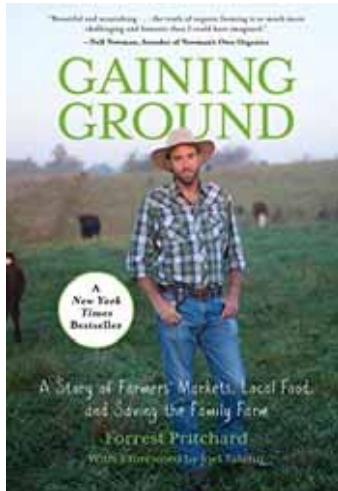
<https://hgic.clemson.edu/factsheet/coleus>

<https://www.thespruce.com/how-to-grow-coleus-plants-1402921>

Pamela McGraw, Loudoun County Extension Master Gardener

Book Review: *Gaining Ground* by Forrest Pritchard

Gaining Ground is one of the most entertaining and informative books that I have read recently. It focuses on the difficulties that modern farmers face today. The writer, a young farmer in 1997, explains all the obstacles he had to overcome to keep his family farm operating in Berryville, Virginia.



Forrest Pritchard decided that finishing four years of college was not in his future as he decided to make his family farm a profitable venture while still raising animals humanely and growing crops without chemicals. His first obstacle was convincing his family. His father, who worked in and commuted to Washington, D.C., couldn't believe his son's crazy dream. Most farming families couldn't make ends meet by farming alone. Many had to have another job or income to stay afloat. Small family farms in the Shenandoah region were disappearing for that reason. In 1997, Pritchard vowed that he would not eat meat until he could raise animals that were grass fed on his farm and not sent to feedlots in the Midwest where they would be fed corn.

While attending a conference on organic farming, Pritchard was intrigued by the idea. One of the speakers at the conference was Bob Evans, who explained that he got his start by selling sausage door to door in West Virginia. That inspired Pritchard. He began plans to establish his business: how many animals, how much pasture is required, how to butcher, what markets to choose (farm store, restaurants, farmers' markets, community-supported agriculture, Internet). He decided that allowing animals to fertilize the soil was best. Using rotational grazing in 1998 allowed cattle to graze in an area for a day or two then they were moved on to fresh grass, which allowed pasture regrowth in all areas. Farming mismanagement stripped vital nutrients from the soil, and Pritchard decided to correct that practice. He pointed out that pigs were incorrectly labeled as "smelly" when all they needed was a pasture in which to do their rooting. Using fertilizer and allowing pigs to root created lush acres of grass and clover--much to the delight of grazing cattle! No concrete feedlots, antibiotics, or hormone supplements were needed.

After experimenting with various markets, Pritchard concluded that farmers' markets in Northern Virginia and D.C. were going to make his efforts worthwhile. While he said some people would not be willing to pay higher prices for organic food, others recognized the benefits of food produced organically on a local farm. Although he had considered selling his food online, he decided to open a farm store on his property. He also felt that farmers' markets provided a more personal experience in connecting with customers. After ten years, his farm was on firm ground, and he was giving advice to other young farmers about establishing farms using organic and sustainable methods.

This is a delightful book--especially since it has a happy ending. I highly recommend it, whether you are interested in farming or just want to read some entertaining stories about animals, e.g., being chased up a tree by a 700-pound pig or chasing a cow that escaped from a truck and ended up in a suburban backyard. I think a trip to Pritchard's farm in Berryville is a must--whether to buy organic food or just to spend a relaxing weekend at his family's bed and breakfast.

Beatrice Ashford, Loudoun County Extension Master Gardener

A Beach House Garden

Where is your happy place? Where can you let your troubles slide into the background for a few days, or a few hours, or a few minutes? Where do you go in your mind when life is just too complicated? I go to the beach. The beach is my happy place. Any beach, anywhere, at any time of the year will do. I would love to live on the Outer Banks of North Carolina. Just a little two-bedroom cottage right on the beach. A place where you step off your deck onto the sand. A place where you can sit on your deck and soak up the sun and salty air all day and all night. How lovely to hear the sounds of sea gulls and terns, of waves bringing the tide in and taking it out, the laughter and screams of people having fun in the summer sun. The beach. It's beautiful and peaceful especially in winter when the summer crowd goes home and you can take long walks on the sand and have the beach all to yourself.

But what about gardening at your beach house? A friend once told me that "gardening on the Outer Banks or in any other coastal environment is not for the weak of heart." Beach house gardeners have to confront many obstacles before they even start planting—salt, sandy soil, heat and wind. The weather has a huge influence on gardening in a beach environment. Landscaping around beach (and especially beachfront) houses has to be able to withstand the most extreme weather conditions. Coastal areas of the Mid- and Southeast-Atlantic regions are subject to multiple hurricanes, tropical storms, and nor'easters, which churn up the coast each year, wreaking havoc on houses and yards. Because the soil is sandy and many beach areas are low-lying, they are subject to saltwater flooding. So you'll want to plant things that can live with minimum water and maintenance and that can survive in sandy, salty soil. First-time gardeners, as well as those who are used to gardening in a more gentle and welcoming environment, find it hard to know where to start in a beach environment. But with a little selective choosing and some patience, your odds of turning your yard into a semitropical oasis will definitely increase.

MAKE A PLAN

First assess your property. Get a soil test. Take note of the movement of the sun around your house, the prevailing wind direction, and the amount of rain that is average for your location. Take some time to make a landscape plan. Perhaps consult with a landscaping professional at a local nursery near your beach house. He or she can help you decide what to plant and where to plant it and point out drainage or other issues that might affect how you landscape your yard. Make sure your garden infrastructure items like fences, sheds, and pergolas are repaired and spruced up. Complete any construction work such as installing a pool before beginning to landscape your yard. Take note of your property's location and orientation. An oceanfront or close-to-oceanfront yard will be more exposed to wind and salt spray, while properties further away from the ocean's assault might be more shaded and wooded and less subject to damage from storms. Try to determine how the sun moves around your property so you'll know where the shade is and which spots are sunny all day. Check out the plants your neighbors are growing successfully. Okay, so now you have your basic landscape plan and you're ready to start choosing what you want to plant and planting it! Below are some ideas you might want to consider when choosing plants for your beach house garden that will turn your bare sandy yard into a colorful tropical paradise!

WHAT AND WHEN TO PLANT

When you're making decisions about what to plant at your beach house, you should always take into consideration the USDA Plant Hardiness Zones. The average last frost date on the Outer Banks is April 10-20. The further south you go along the coast, the earlier the date of the last average frost, and north of the Outer Banks the last frost day is closer to Mother's Day (early to mid-May). When you're thinking about what you might like to plant in your beach house garden, remember that beachfront properties bear the brunt of what the ocean throws at them. Plants (and humans) are subjected to salt spray, high humidity, an almost constant wind, high temperatures day and night in the summer, and coastal storms year round. Gardeners want plants, shrubs, and flowers that are sturdy enough to withstand this barrage of bad weather and beach extremes but that don't take a lot of time to install and maintain. After all, you live at the beach. You definitely want to have time to sit under the beach umbrella and enjoy life!

Most people think that the best time to plant trees, shrubs, and other perennials is in the spring. But contrary to popular belief, in a mid-Atlantic coastal environment, the best time to plant trees, shrubs, and perennials is in the fall when temperatures are still mild enough for good root development and there is sufficient rainfall to encourage roots to go deep and get established before the hot, humid, and sometimes dry summer season.

Here are some trees, shrubs, and plants to consider for your beach house landscape.

- Fig Trees – Can withstand saltwater flooding, high winds, and sandy soil. The fruit is edible. Unfortunately, figs are also tasty to deer so be sure to get your harvest first! Fig trees need plenty of room to grow.
- Oleander – A shrub that can also withstand flooding. They produce beautiful blooms throughout the summer and their dark green narrow leaves provide a nice winter interest. Beware though--oleander shrubs are poisonous!
- Crape Myrtle – These trees produce beautiful white, red, pink, or lavender blooms from June to September. They can tolerate an occasional flood or periods of drought.
- Azaleas – Azaleas in a beach environment do well if they are shaded by trees. They prefer a more acidic soil.
- Dogwoods – White dogwood trees have been around on the Outer Banks for a long time. A street in Southern Shores is named after them—White Dogwood Lane.
- Camellias – Large rose-like blooms appear from October to April. It's interesting to have shrubs blooming in the middle of winter. Camellias like partial sun or shade.
- Sedum – There are many shapes and varieties of sedum and succulents to choose from for your beach garden. They all do well in the intense summer heat and dry conditions of a beach environment and need little care, water, or maintenance.
- Cactus – Cactuses grow well in sandy, dry conditions and are beautiful and easy to grow. Try the eastern prickly pear cactus. It's native to the area and produces beautiful blooms. However, any piece of the cactus that touches earth will quickly root and spread.
- Sea Oats – They are beautiful and natural for the dunes on the oceanfront—they sway in the breeze and turn a lovely bronze color in the fall. And of course, they stabilize the dunes. However, those wonderful seed heads that resemble oats volunteer all over the place and are very difficult to contain in a garden.

- Japanese Maple – These small trees are known for their unique shape and delicately cut leaves. They remain small and prefer partial shade, and they make a great focal point for your garden.
- Sweetbay Magnolia – This smaller-leaved magnolia is native to the coastal areas of the southeastern United States. It has aromatic spicy leaves and twigs and extremely fragrant flowers. It is not as messy or as large as the southern magnolia.
- American Wisteria – Breathtaking lavender blooms appear in the spring, but make sure you plant the native wisteria, *Wisteria frutescens*. Other varieties are highly invasive.
- Native Honeysuckle -. This plant is lovely climbing a pole or just stabilizing the sand. Make sure you are planting the native variety, *Lonicera sempervirens*. These are a hummingbird magnet.
- Pampas Grass – Ornamental grasses are low maintenance, but they do spread. And the leaves can be sharp. Over time the center of the larger grasses will die and the clump becomes much less attractive. Try planting some of the smaller grasses, which perform great and are lower maintenance than pampas grass.
- Cannas – These are tropical-looking plants with blooms and foliage in many different colors. In only a few years a small clump can grow to over 50 feet wide and long. Cannas are better planted in pots, where their growth is limited and the pots can be placed around your pool or in your landscape. Plus, cannas can overwinter in the pots.
- Palm Trees – Many palm trees cannot survive the winter in the mid-Atlantic beach areas, even if they are wrapped. The jelly palm and the windmill palm are a little more tolerant, but even they can be lost in a particularly cold winter.
- Live Oak – If you are fortunate enough to have a live oak on your property, do all you can to preserve it. Check the local protections for this tree. These are ancient trees that hold the soil and provide year-round interest with their gnarled trunks and evergreen leaves. A smaller variety, the sand live oak, *Quercus geminata*, is an ideal choice for the stabilization of banks, slopes, and dunes due to their ability to form colonies. Eighty percent of a sand oak's biomass is underground so it will completely regrow if a fire burns it to the ground. Read more at <https://currituck.ces.ncsu.edu/2020/05/the-majestic-obx-live-oaks/>.

Would you like to attract birds to your landscape? Bird-friendly native wildflowers and ground cover include pink muhly grass, tickseed, verbena, hydrangea, coleus, begonia, coneflower, seashore mallow, butterfly weed, autumn sage, black-eyed susans, and seaside goldenrod. Bird friendly native vines include coral honeysuckle, Virginia creeper, Carolina jessamine, and muscadine grape. Native shrubs that attract birds include yaupon holly, American beautyberry, firebush, yucca, dwarf sweet pepperbush, winterberry, inkberry holly, brilliant chokeberry, and pokeweed. An increasingly popular small tree is the red bud variety forest pansy.

If it's butterflies you're looking to attract, you can obtain a list of trees, vines, flowers, and grasses that attract butterflies to your garden from the local Extension Office. A butterfly habitat will thrive best in a sunny area because butterflies are most active in the sun, and the plants they need to live do best in a sunny environment. Although it goes against our very core to have an untidy garden, during the growing season try not to dead head your flowers. Leave the dead flower heads and foliage on your plants so that you don't accidentally remove butterfly eggs or pupates. According to the North Carolina Cooperative Extension, if you're trying to create a

wildlife habitat, it's best to leave it untidy. After all, nature is not always neat and tidy. That way you do not disturb wildlife habitats.

Will your beach house have a pool? If so, don't just plop a couple of chaise lounges beside it. Create a fun and welcoming environment where people can relax and have fun. Provide areas with interesting plantings and lots of shade for cooling off on those hot summer days. Some ideas for hardscape around your pool might be a cabana, a fire pit, comfortable seating, soft lighting, all surrounded by gently swaying and aromatic flowers and plants. If you have enough room and want to go all out, create meandering paths that connect the water features, plants, and seating area. It's your happy place--do what you want: be happy.

Whatever you plant, you definitely want to consider the amount of time you're willing to put into maintaining your landscaping. If your beach house is a vacation rental or a second home, you will want a landscape that requires minimal input. Although a well-manicured lawn is nice, the additional cost and effort required to keep the grass looking good should be considered. Many types of native grasses that do not require frequent cutting can be used although they tend to look a little wilder than the traditional manicured lawn.

Your beach house garden doesn't have to be completed in the first season. And it doesn't have to be elaborate to be effective. Plant a few of your favorite beach plants and then fill in with potted plants that are always cheery and welcoming. Put big pots of flowering annuals near the front door. Make the pool area feel tropical with elephant ears planted in pots. The tubers can be dug up at the end of the season and put in peat moss and replanted the next year. Create your overall plan and implement a portion of it each year. What's the rush? You're at the beach! Enjoy life. Take your book and a glass of wine and go sit on the sand in the shade of your beach umbrella and relax. Have fun. The garden will still be there tomorrow.

Jayne Collins, Loudoun County Extension Master Gardener

Tomato-Watercress Salad With Chimichurri Vinaigrette

Watercress is a spicy, pungent green. It has loads of nutritional value like other cruciferous vegetables such as arugula, kale, and broccoli. Look for baby watercress—older or mature watercress can taste bitter. I tried to recreate a tomato-watercress salad from my favorite Argentinian restaurant. It had a simple vinaigrette dressing, but I couldn't resist adding more flavor with my favorite steak topping—chimichurri. Make it an entrée by adding slices of grilled skirt steak.

Makes 4 servings.

INGREDIENTS

Chimichurri Vinaigrette:

- 1 cup lightly packed fresh Italian parsley leaves
- 1 Tablespoon fresh oregano leaves or ½ teaspoon dried oregano
- 2 garlic cloves, minced
- ¼ teaspoon fresh lime zest
- 2 Tablespoons fresh lime juice
- 2 Tablespoons red wine vinegar
- 2 Tablespoons water
- 1½ teaspoons ground cumin
- 1 teaspoon chili powder
- 1 teaspoon salt
- 1 teaspoon sugar
- ¼ teaspoon crushed red pepper flakes
- ½ cup olive oil



Salad:

- 3 large tomatoes, cut into wedges (about 1½ pounds)
- ½ small red onion, very thinly sliced
- 1 (4-ounce) bag fresh watercress or baby arugula

DIRECTIONS

Prepare the Chimichurri Vinaigrette. Combine all ingredients in a blender. Process until the parsley is very finely chopped. Cover and chill until ready to serve. Makes 1 cup.

Prepare the salad. Combine the tomatoes and onion in a large bowl. Drizzle in about ½ cup of the vinaigrette; toss until coated. Arrange tomatoes and onion over watercress on a serving platter or individual plates. Serve with additional vinaigrette on the side.

Recipe reprinted from *Tomatoes: 50 Tried & True Recipes* by Julia Rutland, Adventure Publications.

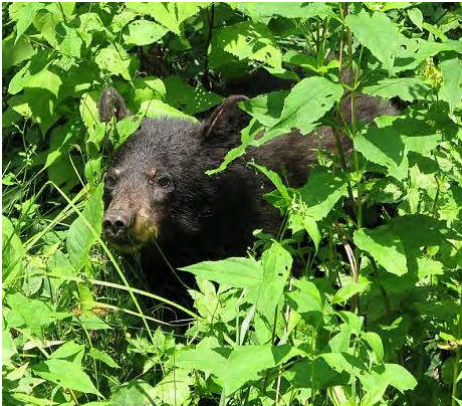
Julia Rutland, Loudoun County Extension Master Gardener

Black Bears in Loudoun County

The black bears living all around us in Loudoun County are American black bears (*Ursus americanus*) and are the most common species of bear in North America. The black bear is found mostly in Canada, Mexico, and the United States. Approximately 339,000 to 465,000 black bears live in the United States. Black bears are the only bears in Virginia; no grizzly bears or brown bears live here. Black bears once lived mainly in the western mountains of Virginia, but now they cover a wider area and can be found anywhere from their preferred forest area to the alpine zone. They are found in 90 of 99 counties within Virginia. They have been seen in Aldie, Leesburg, Round Hill, Purcellville, and Ashburn.

In our early history, bears were aggressively hunted and killed. About 70 years ago, Virginia's black bear population was down to about 1,000. But thanks to factors such as reforestation and state management, black bears have been thriving in the state. Current estimates put the Virginia black bear population between 18,000 and 20,000.

Where you expect to see black bears:



Bear cub at Shenandoah National Park. Photo by C. Burns.

Black bears are not closely related to brown bears or polar bears. Genetic studies reveal that the black, brown, and polar bears split from a common ancestor 5 million years ago. The black bear is more closely related to the Asian black bear. Several black bear subspecies include the Olympic Black Bear, the California Black Bear, and the New Mexico Black Bear. The black bear in this country is the smallest of the bears and the most widely distributed. In contrast to the brown bear, black bears have smaller claws and more prominent ears, and their rumps are higher than their shoulders.

A black bear's average life span is 15 to 25 years, and its weight ranges between 100-350 pounds depending on age, sex, and season. Females weigh around 90 to 250 pounds, and males are usually larger weighing about 150 to 500 pounds. The length of the black bear ranges between 60 and 72 inches with a height of 3 feet at the shoulder and 5 to 7 feet when standing upright.

Black bears are considered to be omnivores since they will eat both plants and animals, but they live mainly on vegetation and insects. They will eat human garbage, bird eggs, and suet and seed from bird feeders. They prefer old forests with a variety of trees and shrubs that produce fruits, hickory nuts, acorns, and other plant material. Black bears found in this area get 85 percent of

their diet from berries and nuts. They rarely eat animals larger than ants, grubs, and cicadas. The meat they do eat is usually from the carcasses of dead animals or roadkill, which is usually less than ten percent of their diet.

Despite construction and high human population, the population of the black bear is currently healthy. Like deer, they can survive and even thrive on the fringes of civilization or even in the midst of it. Black bears are solitary animals, are adaptable to their environment, and seem tolerant of various living conditions.

Problems of collisions between people and bears can often be managed by our behavior toward them. Any resulting danger is usually because people foolishly provoke or corner a bear.

There are common misconceptions about black bears living here in Loudoun County. One misconception is that they are slow and dumb. In reality, they are smart and fast. Their IQ has been tested to be second only to that of primates. They can sprint 30 to 35 mph, which is as fast as a racehorse. Their speed is primarily used to flee others, not to chase prey. Black bears are competent swimmers. They are strong, powerful, shy, and cautious. They don't want to be around us, but they want what we have, namely our food. Black bears are not aggressive and flee when they encounter people.

Where you are most likely to see black bears:



Just crossing the street. Photo from [INSIDE NOVA](#).



Bear on back porch raiding bird feeder. Photo Dawne Holtz.



Up a backyard tree. Photo by Kerry Perry.

Another misconception is that when a black bear stands on its hind legs, it is displaying aggression. The reality is that standing on its hind legs helps the bear get a scent, a better wind current. Bears may also mock-charge when they are frightened and want to deter the intruder. They could be dangerous and could hurt people, but they rarely do. Even though some people fear black bears, attacks are extremely rare. The bears are looking for food, and their hunger brings them around to our environment.

Black bears are nearsighted and have an excellent sense of smell. Even though they are nearsighted, they see quite well in color. Their hearing is much better than that of humans, and they can hear in the ultrasonic range. The nasal mucosa responsible for their acute smell is 100 times larger than humans'. They are built for strength, with their claws designed for digging and climbing trees. They have difficulty chasing prey because their claws are not retractable.

The summer season, June and July, is breeding season for the black bear. Females do not breed until they are four to eight years of age. The gestation period is one of the fastest gestations known for a mammal this size. Adult female black bears usually have one to four cubs every other year. They breed only six times over the course of their lives. The black bear cub is born in January or February weighing a half pound, blind, helpless, hairless, pink, and about the size of a chipmunk. By the time they are four months of age, they are the size of puppies.

Cubs can be very strong and are never intended to be pets. They are wild animals meant for the wild. Their mother will take care of them for approximately 16 to 17 months; then they fend for themselves. One out of five cubs dies before it is one year of age.

Bears sighted in the springtime are often juvenile bears looking for territories to call their own. Young females tend to establish their territories near their mothers, while young males will range up to 100 miles looking for new territory in which to live. They often follow streams and valleys as they look for their new territories. Black bears do not roam far and will usually travel within 2 to 15 miles but will go further if they need to in search of food.

They will spend the winter months in dens both because of the cold weather and because of a lack of available food. In the western part of the state, they will choose a hollow tree for their den and in the eastern part, they will find ground dens such as piles of sticks. They will stay in their dens for 3 to 5 months. During this period, they will not eat, drink, defecate, or urinate. Their urine is reabsorbed by their bodies, and they survive by living off body fat. Black bears will often gain 4 to 5 pounds a day before hibernating. This weight gain will help to sustain them over the winter months. The pregnant female black bear will give birth to cubs during their winter denning period. Bears without cubs will emerge earlier, while mother bears and their cubs will emerge last, usually in late March or early April.

Although sightings are rare in the woods, it is possible to encounter a black bear while hiking there. Black bears can be active during the day, but they are usually active at dawn and at dusk when it is somewhat darker. It is advisable to make noise while you walk to avoid a close encounter. If you do encounter a bear, back away slowly while facing the bear, leaving it with a clear and easy escape route. Make noise, wave your arms, and make yourself look as big and frightening as possible. Never turn around and run since this may cause the bear to chase you.

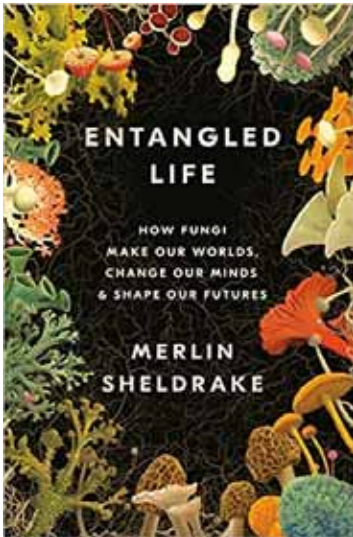


Bear at a beehive. Photo by Joe Guirrieri.

Leave black bears alone if you see them in the neighborhood. They are only looking for food; they are not looking to hurt anyone. Humans can help by taking away their food source. Don't feed them. It is a death sentence to them if they are fed by humans because they will come to depend on that food and could become aggressive. In addition, feeding black bears is against the law. Humans can help by removing bird seed, pet food, and trash cans when a black bear is seen in the neighborhood. They will disappear once their food source disappears. Bear-proof dumpsters and garbage cans can be purchased. Bears will also be deterred from agricultural vegetation such as corn with a low voltage electric fence. It is possible to safely coexist with black bears if we pay attention.

Heather Keith, Loudoun County Extension Master Gardener

Entangled Life, a Book Review



Entangled Life, How Fungi Make Our Worlds, Change Our Minds, and Shape Our Futures by Merlin Sheldrake. Published by Random House, 2020, 368 print pages. Available in hardback, softcover, and e-book.

Entangled Life is both informative and exploratory. It is informative in the sense that the author, Merlin Sheldrake, describes the current scientific knowledge of fungi; and it is exploratory because there are still so many questions unanswered about this life form. There is so much information in this book. It was a pleasure to reread it to write this piece.

Fungi are ubiquitous, inside, and around us. They make life happen and have shaped and changed life over the billions of years the Earth has been here. There are an estimated 2.2 to 3.8 million species of fungi in the world, 99 percent of which are undocumented. They eat rock, make soil, digest pollutants, feed and kill plants, survive in space, make medicines, manipulate animal behavior, alter your mind, and impact Earth's atmosphere. Fungi are so important that 90 percent of plants depend on mycorrhizal fungi for their lives. They exist in many habitats and metabolize many things from lignin, rock, crude oil, and plastics to mining waste, and they ferment sugars allowing us to make bread and beer. As most gardeners know, hyphae--networks created by fungi--bring water and nutrients to plants and trees, and some carry electrical signals. They are the basis of the "wood wide web" that has been popularized in the past several years.

This book describes Sheldrake's discovery and study of fungi. It's a fascinating journey that offers a glimpse of what will hopefully include many more scientists (both professional and amateur) and academics studying these wonderful organisms to uncover all the things they do to drive and manage life on Earth.

Sheldrake's discussion of fungi is philosophic as well as factual. He explores the question of whether these organisms are merely preprogrammed entities that respond to stimulus, or whether they are somehow aware of their world and are active participants in manipulating it. He describes how mycelium networks explore their environment and learn from it. They change their behavior according to what one hypha learns. How this is done is still not known.

Sheldrake devotes a chapter to lichens. These organisms are more complex than just a symbiosis of fungi and bacteria. Lichens weather rock, and when they die and decompose, they mix with the rock they broke down and form the soil. This is how the Earth was transformed millions of years ago from a rocky barren place to the thriving ecosystem we live in today with soil, plants, insects, and animals. His discussion of lichen's highly complex evolution and life cycle is pretty mind blowing.

Mycorrhizal fungi are literally the root of all life on land. They came before roots. The mycelia make up a third to half the living mass of soil. The symbiosis between plants and mycorrhizal fungi consists of plants engaging with light and air to make sugars and lipids, and roots and fungi

engaging with the soil to mine nutrients and water bound in the soil. Sheldrake describes the origin of the concept that plants and mycorrhizal fungi are symbiotic. He tells how the theory was attacked initially and ultimately accepted. He goes into detail on the richness and complexities of this interaction or symbiosis. The mycorrhizal exchange between fungi and plants is so important that this exchange can vary the amount of carbon dioxide and oxygen in the air. This has implications for today's climate issues.

Sheldrake outlines the history of how scientists made the discovery that carbon is passed or shared among trees that share a mycorrhizal network, the "wood wide web," which is getting more and more traction in public discussions. Not just carbon but nitrogen, phosphorus, water, poisons, hormones, and information are shared as well. This concept leads to the notion of cooperation among trees and plants rather than just competition. Sheldrake cautions us to keep in mind however that the fungal networks are in it to benefit themselves, and if benefitting other life forms is useful then that's what they have evolved to do. There are more fungal webs underground than the "wood wide web." The latter links trees and plants, whereas there are fungal networks that don't involve communications among plants but only communication among certain types of fungi.

Modern agricultural methods have disrupted the mycorrhizal behaviors and relationships because so many farmers do not take the life of the soil into consideration. Reliance on chemical fertilizers has in many places removed mycorrhizal fungi from the soil. This reduces the "stickiness" of the soil, and as a result, the soil washes away, and water and nutrient retention is reduced. The right types of mycorrhizal fungi increase the quality of harvests and improve the health, strength, and resistance of plants.

Sheldrake includes a fascinating chapter on how fungi alter the minds and behavior of numerous insects and animals to achieve the fungi's objective. One of several examples is the "zombie fungi" that infects ants and causes them to climb to the top of grass leaves in order to be eaten by herbivores to continue their life cycle. He discusses at some length the history of psilocybin (LSD) from its earliest use by humans thousands of years ago to the activities in the mid-twentieth century when early research was halted. Psilocybin research was restarted in the twenty-first century. He describes the current understanding of how psilocybin affects the workings of the brain. These studies have found that human behavior and emotions can be affected by psilocybin in many beneficial ways such as relieving severe distress, breaking addictions, and generating mystical experiences. The changes in patients caused by psilocybin were found to be not changes in biochemistry but an opening of their minds to new ways of thinking about and approaching their lives and behaviors. This is very different from the pharmacology Western medicine has traditionally embraced.

Finally, Sheldrake discusses ways mycology can be harnessed and better understood and used to address and perhaps solve the climate and pollution problems we face today. He describes the use of fungi to grow things such as skin substitute, building materials, packing materials, leather, furniture, and lamp shades. Fungi manage well in human messes. They were among the first organisms to emerge after nuclear disasters at Hiroshima and Chernobyl; they can metabolize used cigarette butts, glyphosate, nerve gas, chlorophenols, synthetic dyes, disposable diapers, TNT, crude oil, some plastics, and drugs. Although pollution remediation by fungi isn't simple, it offers promise. It faces obstacles in that remediation is not routinely taken up by offending

companies, and the existing remediation industry has not yet embraced fungal solutions. This is where citizen scientists may be able to have an impact on the future of this industry.

This discussion of *Entangled Life* does not include all aspects of fungi covered in the book nor provide anywhere near the richness of detail Sheldrake includes on these subjects. I recommend you read it for yourself and find out just how much of our lives are driven by this most interesting life form.

Sharon Perryman, Loudoun County Extension Master Gardener

If you want to read more on mycorrhizal fungi, try *Finding the Mother Tree: Discovering the Wisdom of the Forest* by Suzanne Simard. This looks at the role fungi plays in tree health. This book is on the *Washington Post* bestseller list for nonfiction and was the subject of Diane Rehm's May book club discussion.



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, genetic information, marital, family, or veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Jewel E. Hairston, Administrator, 1890 Extension Program, Virginia State, Petersburg.