Trumpet Vine

Knowledge for the Community From Loudoun County Extension Master Gardeners

Spring 2024

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LOUDOUN COUNTY EXTENSION MASTER GARDENER LECTURE SERIES

FREE AND OPEN TO THE PUBLIC

7 P.M.

HOSTED BY LOUDOUN COUNTY PUBLIC LIBRARIES; PLANNED BY LOUDOUN COUNTY MASTER GARDENERS

Virtual Lectures:

April 4, Growing a Better Garden by Jennifer Lumley, Loudoun Wildlife Conservancy

May 02, Managing Trees and Public Spaces for Wildlife by Marne Titchenell, Extension Wildlife Program Specialist, OSU

June 6, Dragpmflies by Lindsay Loyd

July 11, Working the Night Shift: Pollination After Dark, Emily May

Check the event calendar on our website for updates on topics and speakers and urls for virtual lectures.
Visit us on Facebook:
VCE Loudoun Master Gardeners

Celebrate Spring – Plant a Tree

Early spring is a great time to plant a tree. Any newly planted tree must be watered regularly for the first 2 years, especially given the 100 degree temps and possible droughts that climate change is creating. But climate change is a reason to be planting native trees. Remember, as trees grow, they help stop climate change by removing carbon dioxide from the air, storing carbon in the trees and soil, and releasing oxygen into the atmosphere.

Another reason you should plant is the cost savings that you can realize. Following a successful pilot program last spring, the Virginia Department of Forestry (DOF) is expanding the Throwing Shade Virginia program to partner with more nurseries this year. From now through May 1, retail customers can receive $25 discounts on select native trees and shrubs (valued at $50 or more) from participating nurseries. Throwing Shade VA incentivizes Virginians to plant native species of trees and shrubs, which provide water quality benefits and offer an important source of food and habitat for wildlife and pollinators. Not only can native species meet any landscaping objective, since they are already adapted to Virginia's climate and environment, they require less maintenance and little to no fertilizer.

Suggested small native trees include:

- Serviceberry
- Sweetbay Magnolia
- Flowering Dogwood
- Redbud
- Carolina Silverbell
- White Fringetree
- Crabapple

Pay close attention to the expected size at maturity and its environmental requirements.

Leesburg Flower and Garden Festival
April 20- 21

This year is the 34th annual Leesburg Flower and Garden Festival. VCE Loudoun hosts a booth featuring native plants, high quality garden tools and gloves, small arrangements of succulent houseplants, and a garden clinic with Master Gardeners available to answer specific plant, pest, and environmental questions.

The festival is a rain or shine event usually held the third weekend of April. The Historic District of Leesburg is closed to normal traffic allowing visitors to leisurely visit more than 100 vendors of plants, garden and outdoor articles, an entertainment stage and an area with children's activities. Last year, an estimated 40,000 people attended the two-day event. Saturday hours will be 10 am to 6 p.m. and Sunday 10am to 5 p.m.

There is no charge to attend this event. Come and visit the Loudoun County Master Gardener tent during this April 20 – 21 event.

Ellen Paquette, Loudoun County Extension Master Gardener

Specialist Bees and their Spring Native Plant Partners

Approximately 400 native bee species are found in Virginia, and some 20-25% of them are "plant specialists" (oligolectic bees) with the rest considered to be "generalists" (polylectic bees). Oligolectic bees evolved over time to rely on just a few native plant species, with some bees dependent on a single native plant species, to provide the pollen (proteins and lipids) they need to feed their larvae. So just like butterflies, adult bees can nectar on many flowering plants, but the specialist bees' offspring will only survive if they eat the native plants (bees larvae eat plant pollen instead of the leaves eaten by butterfly caterpillars) the species evolved with over time.

Many specialist bee queens overwinter under layers of fallen leaves – yet another reason to leave the leaves! In spring, specialist bees emerge from their overwintering sites at the same time as specific native plant species begin to flower. Some early blooming plants also evolved to depend on specific bee species for pollination, though many can be pollinated by multiple species. This means that by planting the native plants needed by specialist bees you can also help generalist bees. Why? Though the specialists are only collecting pollen for their larvae from a limited number of species, the generalist bees can feed their larvae pollen from a variety of species so they can often use the same species as the specialists. And as indicated above, both specialists and generalists will nectar from a variety of blooming plants.

Why specialize?

There are risks to being a specialist bee. Specialists are generally only active aboveground for a few weeks when specific plants are blooming, so they can only support one brood of offspring, whereas generalists often have more, so specialists have no backup plan. Specialists are also more at risk from habitat degradation or loss altogether, pesticides, invasive species, and climate change. The partner plants can likely be pollinated by other bees; however, if the plants that specialists evolved with are not present, the queen bees will not be able to provide the specific type of pollen their larvae can digest, and they will not survive. There are rewards to being a specialist too - some bees have evolved to be more effective pollinators of their partner plants, which may increase pollination rates for the plants, thus helping them to thrive. Collecting pollen from only one or a few species improves the specialists' efficiency and effectiveness since they can remain focused on those plants, although the tradeoff is that specialists typically depend on larger areas of habitat than generalists and they may miss out on pollen rich resources from other nearby plants that they fly past in search of their host plants.

Meet the specialists and their native plant partners:

Photo Courtesy Judy Gallagher via Flickr

Spring beauty bee (*Andrena erigeniae*) and **Virginia spring beauty** (Claytonia virginica). This bee is confusingly named after salt and pepper plant (*Erigenia bulbosa*), a plant from which it nectars but does not collect pollen. Female spring beauty bees collect only the pink pollen of the spring beauty plant. Spring beauty flowers are tiny, with several flowers forming a loose cluster on the stem, accompanied by grass-like leaves. Due to its size, planting it in small patches creates more visual impact for human eyes while helping the bees to pollinate more efficiently. Though the above-ground part of the plant disappears soon after the seed capsules have ripened it generally doesn't seem to leave

large gaps in the garden. Spring beauty prefers part shade in well-drained soil. In our area they can be seen blooming from late February to late May.

Photo courtesy Amy Schnebelin via Wikimedia commons

Trout lily mining bee (*Andrena erythronii*) and **Yellow trout lily** (*Erythronium Americanum*). The trout lily bee is a specialist bee that only collects pollen from flowers in the genus *Erythronium*, which is part of the lily family. Trout lilies will form colonies, and the seeds of this plant are distributed in part by ants, a process called Myrmecochory. These plants take four to seven years to flower, so getting a patch established will go a long way to helping your local trout lily mining bee population. And in the meantime, the gorgeous mottled green leaves make a lovely low groundcover before the trees leaf out in spring. These little charmers can be found in bloom from late February to May, though they bloom primarily in April, with flowers tracking the sun (called heliotropism), and closing at night (called nyctinasty.) A woodland ephemeral, trout lily prefers part sun in moist rich soil with leaf litter and other organic matter.

Photo courtesy Sam Wilhelm

Violet miner bee (*Andrena violae*) and **violets** (*Viola sororia*). Violets are the host plant for the violet miner bee, which needs their pollen to feed the bee's larvae, as well as for multiple species of fritillary butterflies, whose caterpillars eat the violet's heart-shaped leaves. While some consider violets to be a lawn weed, in addition to having cute flowers and performing the important function of hosting these insects they make a great groundcover and are easy to transplant out of the lawn or wherever else they may volunteer into places where you want them in your garden beds. I often plant/transplant them to serve as a low growing groundcover for edging in my flowerbeds. Like trout lily, ants disperse the seeds of violets, which are also spread as they are flung out from the ripened seedpods when they open. Violets can grow in part sun to part shade, preferring moist, rich soils, and can be found in bloom in our area from April to June.

Photo courtesy USGS Bee Lab

Fragile dogwood mining bee (*Andrena fragilis*) and **dogwood** (*Cornus spp.*). These bees can only feed their offspring pollen from dogwood species, though they will nectar on a number of other spring blooming flowers. There are multiple dogwoods native to Virginia, including red osier dogwood (*Cornus sericea*), silky dogwood (*Cornus amomum*), and flowering dogwood (*Cornus florida*). Flowering dogwood is the state tree and flower of Virginia. Dogwoods are hosts to the spring azure butterfly (*Celastrina ladon*), the cecropia sikmoth (*Hyalophora cecropia*) and other lepidoptera, and its berries are a great source of nutrition to migrating and overwintering birds. Dogwoods' size and preferred conditions vary depending on the species so you will want to do some research to ensure you match their needs to your site, though many can be planted in a range of conditions. In addition to their wildlife benefits, dogwoods provide four seasons of interest for human enjoyment as well.

Southeastern blueberry bee (*Habropoda laboriosa*) and **blueberries** (*Vaccinium spp*.). Southeastern blueberry bees are a great example of how specialist bees' evolution can benefit their partner plant species: these bees can buzz pollinate and are among the most efficient pollinators of blueberry plants, which require the vibrations created by buzz pollination to release their pollen. Like bumblebees, southeastern blueberry bees can vibrate their flight muscles to warm up, enabling them to fly at cooler temperatures than other species. There are multiple blueberry species native to Virginia, though highbush (*Vaccinium corybosum*) and lowbush (*Vaccinium angustifolium*) are among the most common ones commercially available locally. Both need acidic, moist, well-drained soil in full sun to part shade - full sun leads to more flowers, fruit, and better fall color. Their forms vary widely though: *V. corybosum* can grow 6' to 12' tall and be used as a hedge, whereas *V. angustifolium* grows 6" to 2' tall and can be planted as a groundcover. Blueberries are self-fertile (they can set fruit with pollen of the same plant or same variety), but two or more bushes will result in a better yield. If you are focused on berry production, research your selection carefully as there are early-, mid-, and late-blooming varieties and if you are mixing varieties you will want to select those blooming at the same time. Please also plan to share the berries with wildlife, which will enthusiastically harvest them alongside you.

Photo courtesy USGS Bee Lab

Blueberry flowers *Photo Léonce Carré via Flickr*

How else can you help specialist bees?

Many specialist bees, and many native bees for that matter, dig underground burrows where they create chambers into which they lay their eggs. Queen bees provide each egg with a ball or cake of pollen that the larvae will feed on as it develops over the coming months. Though they are solitary bees, multiple females will sometimes dig their nests close together when they find a favorable spot. When multiple nests are located in the same area it is called an "aggregation." What constitutes a favorable spot? Species differ a little in their specific preferences, but generally sunny area, perhaps with a little slope to it or otherwise well-draining, with loamy or sandy soil. Many bees prefer areas where the soil is bare or has little to no vegetation, so consider leaving some places in your beds mulch-free to provide spots for nesting. As mentioned earlier, in the fall, leaving the leaves in your beds provides insulated overwintering places for next year's queen bees to hunker down and wait for spring so they can begin the cycle once more. Unlike honeybees, which can fly for miles in search of pollen and nectar, many native bees never fly very far from where they are born, so your yard could be a bee's entire world. Adding some of the host plants listed above to your garden can help make your yard into an even better world for specialist bees - and all of us!

Barbara DeRosa-Joynt, Loudoun County Extension Master Gardener

Virginia Bluebells in Your Garden

"As best I can determine, *Mertensias* are not plants at all, but delicate clumps of sky, thinly disguised and sent here for a few weeks each year to bring us earth-bound folks briefly closer to heaven."[1]

We all know where to go to see huge sweeps of Virginia bluebells, *Mertensia virginica*. But you can bring these little pieces of sky to your garden as well. These lovely plants are in the family *Boraginaceae*, which makes them relatives of other familiar species like forget-me-not, lungwort, and comfrey. Bluebells enjoy rich, well-drained soils where they can form large colonies over time. Growing fast, in the early-spring sunlight before the trees leaf out, the flower shoots quickly create some of the most beautiful flowers east of the Mississippi. The flowers start off pink and gradually turn over to their famous shade of light blue as they mature.

Flower buds amid emerging leaves.
Photo: Carol Ivory

Pink flower buds.
Photo: Master Gardeners of Northern Virginia.

Mature, blue flowers
Photo, Carol Ivory

Virginia bluebells are not able to self-fertilize and must rely on pollinators. Bees, especially female bumblebees that fly in early spring, visit the flowers. Long-tongued bees use their proboscis to retrieve the nectar from the long tube, but short-tongued bees have to chew a hole at the base of the tube to reach the nectar. The real champions of bluebell pollination are butterflies and moths. Because of the trumpet shape of the flowers, Virginia bluebells are most commonly pollinated by butterflies and moths, who can land on the edge of the flower and reach the nectar. It is stunning to watch them perch delicately on the rim of the flower.

A colony of bluebells is a sight to behold! The blooms will last for a few weeks in early spring (April and May). Bluebells are true ephemerals and while they form lush foliage, once the last blooms fade the foliage quickly yellows and the plants go into dormancy. This allows bluebells to share a space in your garden with late emerging perennials such as ferns and ginger.

Virginia Bluebells prefer soils typical of a woodland - rich and a little on the moist side. They often grow on floodplains along streams, creeks and rivers. You can introduce bluebells into any naturalized area or native plant bed in your yard. A spot with spring sun and summer shade is preferred. Established plants tolerant fair amounts of summer drought.

[1] Cullina, *Growing and Propagating Wildflowers, p.146*

Plants are easiest to introduce in the spring as a potted plant purchased through a native plant sale. From just a few plants, bluebells will steadily spread via rhizomes and seed, and after a few years you will have an amazing sweep of bluebells. Like most all native perennials, bluebells have two reproductive strategies. The first is vegetative though the spread of rhizomes or woody stems that grow horizontally underground. This is the most dependable method of reproduction for the plant and produces uninterrupted patches of bluebells.

This photo was taken in 2011 just a few years after I introduced 3 1qt pots of bluebells. They have now spread far and wide. Photo Carol Ivory

Plants can be moved in the early fall by digging up the rhizomes which look like a piece of dead wood. If you choose to dig them up, you must keep track of which side is up and then replant them with the same orientation. Also, to prevent the rhizomes from rotting, it's best to let their wounds air dry and callus for a week before replanting them.

The second reproductive strategy is through self-seeding and myrmecochory, a mutually beneficial process by which ants are enticed to carry seeds equipped with food appendages called elaiosomes to their nests, where the ant larvae chew the elaiosome off of each seed, helping the seed to germinate. The ants then move the seed to their waste heap which is a very nitrogen rich underground space conducive to the growth of new plants. Bluebells aren't the only native spring wildflower that have a mutualistic relationship with ants. Trillium, bloodroot, dutchman's breeches, trout lily, wild ginger, violets, hepatica, bleeding heart and squirrel corn all have seeds equipped with elaiosomes which help the seeds to be dispersed by ants beyond the parent plant.

You may be tempted to buy bluebell seeds or rhizomes from various merchants online. I have done this a few times over the years and have never had success. Like most North American woodland plants, bluebell seeds must maintain around 30% moisture content to remain viable. In contrast, the vegetable and flower seeds that we normally buy can be dried to 12% moisture content and can be frozen. That means bluebell seeds must be gathered and planted immediately or stored in moist vermiculite at 40 degrees F then planted in the late winter or very early spring. Gathering and growing from seed is something I might try, but to ensure the introduction of bluebells into a new area I have ordered 5 plants from a nearby native plant sale.

Carol Ivory, Loudoun County Extension Master Gardener

Native Plant Sales

Every year the Loudoun Wildlife Conservancy (LWC) sponsors spring and fall native plant sales at Morven Park in Leesburg. Four native plant nurseries bring thousands of native plants to choose from. The Loudoun County Extension Master Gardeners will host an information table there and LWC will sponsor a short informational talk, *Native Plants for Beginners,* with giveaways.

Throughout Northern Virginia there are many native plant sales. For a list of sales see https://www.plantnovanatives.org/local-native-plant-sales

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.

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!

Square foot gardening is a solid gardening method for any home gardener, especially beginners and people who are short on space.

Sandy Smallwood, Loudoun County Extension Master Gardener

New (Gardening) Year's Resolutions

As we get ready for a new gardening year it is an excellent time to consider trying new approaches to our traditional practices. If you don't already do so, I encourage you to think about deploying some of the techniques listed below. And if you already use these practices in some parts of your yard, perhaps consider applying them in additional areas of your property. As gardeners we are often experimenting, so I hope you will give some of these a try in 2024.

1. Resist the urge to tidy up your perennial garden too soon. Spring in NoVA frequently tests our patience, and mild spring days can lure us into the garden earlier than we should be out there. Landscape services cleaning up neighbors' gardens in very early spring can make do-it-yourselfers feel pressured to get out there too, assuming the professionals must know what they are doing. But one might ask oneself whether those companies are likely to be more focused on the wildlife overwintering in our gardens or on their own bottom lines. Sometimes we need to remind ourselves (or our family or neighbors) why we are waiting and decide not to worry about the temporary contrast between our neighbors' yards and our own. Insects, amphibians, and other critters are generally not too tempted by warm early spring days and won't emerge until the weather is reliably warm enough for them to survive. But if they do venture out early, they still need to retreat somewhere when cold weather inevitably returns, so try to avoid removing their hiding places and protection. Butterfly chrysalides are intentionally camouflaged and tough to spot – many attach to plant stems and look just like the dead leaves among which they hide – and you don't want to inadvertently remove them. Two questions that can help guide your timing: Have I paid my taxes yet? Have we had temperatures in the 50s for five days in a row yet? (Note: some sources recommend five *evenings* in a row.) This is a terrific Xerces Society article on this topic, and an interesting example from the Lurie Garden in Chicago. Please see the separate article in this issue containing ideas for good practices for your spring cleanup.

Dry Echinacea stems

Frost on mountain mint

2. Add more natives. If you don't already have native plants in your garden, 2024 is an excellent year to give them a try, and if you already have some natives, add more! When properly sited, plants native to our region are a terrific addition to your garden as they are already adapted to our soil and climate, and they provide critical resources to our native wildlife. The insects, birds, amphibians, and other creatures you support by planting native plants are all key members of your local ecosystem and provide endless hours of wonder as a bonus. Don't know where to start? Try a butterfly host plant: purple milkweed (*Asclepias purpurascens*) is a host plant of the monarch butterfly (*Danaus plexippus*), plantain-leaved pussy toes (*Antennaria*

Pussytoes

plantaginifolia) hosts the American lady butterfly (*Vanessa virginiensis*), spicebush (*Lindera benzoin*) is the host plant for the spicebush swallowtail (*Papilio troilus*), and many, many more! Some resources: a great native plant resource, a list of butterflies and their native host plants, a list of Virginia native plant nurseries, and a list of native plant sales (who doesn't love a plant sale?) In addition to these sales, most of the native plant nurseries have open hours for shopping – please check their individual websites for details, including lists of plants they grow.

Spicebush

3. Put down the spray. Magazines, social media, and even our neighbors can give us the impression that spraying chemicals will solve all problems and render our plants and our gardens perfect – blemish and pest free. But perfection is overrated, whether it is an emerald green weed free lawn or an Instagram-worthy beefsteak tomato, and it is important to remember that if nothing is eating your plants your garden is not part of the ecosystem. Before applying chemicals to your lawn or garden, especially if you are being pressed to sign up for subscription services, make sure you know what the problem is that you are trying to solve. And consider the suggestion of Professor Doug Tallamy, noted entomologist: he recommends that if insect damage from chewing on leaves bothers you, use his "ten step rule" – because once you take ten steps away from the plant it is usually hard to see any damage. The Master Gardener help desk is a great resource to help you identify what is causing whatever is happening to your plants and can advise whether any intervention is even necessary. Sometimes chemicals are the only recourse, but you are encouraged to consider other options first, including just letting things be, cultural solutions like removing fallen diseased foliage and increasing air circulation, and deploying organic remedies. Try to be patient and allow some time for predator insects to come assist in managing pest populations and consider how beneficial non-target insects would be affected by a chemical treatment. If you do end up using chemicals, please ensure you always very carefully read and closely follow all instructions on the label. And remember that the caterpillar munching on your parsley will become a beautiful black swallowtail butterfly (*Papilio polyxenes*), and the tomato hornworm nibbling on your tomatoes will become a gorgeous five spotted hawk moth (*Manduca quinquemaculata*), so consider planting a little extra and simply coexisting. Send your questions and accompanying photos to the Master Gardener helpdesk at: LoudounMG@vt.edu (year round), visit a garden clinic (May – October), or check the Virginia Tech pest management guide to ensure you are using the best practices and least environmentally harmful remedies.

4. Remove invasive alien species. The federal government defines invasive species as non-native (or alien) to the ecosystem and whose introduction causes or is likely to cause economic harm, environmental harm, or harm to human health. More than 90 nonnative plants are listed as invasive by the Virginia Department of Conservation & Recreation. Kudzu is one of the most infamous ones, but some other common examples, all of which are still commercially available, include Japanese barberry (*Berberis thunbergia*), English ivy (*Hedera helix*), golden bamboo (*Phyllostachys aurea*), periwinkle (*Vinca spp*.), bradford/callery pear (*Pyrus calleryana*), and Chinese and Japanese wisteria (*Wisteria sinensis and Wisteria floribunda*, respectively.) Driving around the county you can see where these plants have escaped from yards and found new homes along our roadways, where they outcompete and replace the native vegetation. Even small numbers of

Callery pear

invasive plants can have devastating impacts on the local native insect population, so removing these plants makes a big difference for the ecosystem. Make 2024 the year you remove invasive species from your property and replace them with something that looks beautiful and helps your local wildlife. Not sure where to start? There are some excellent resources on the website of the Blue Ridge Partnership for Regional Invasive Species Management (PRISM) and Plant NOVA Natives to help you identify and remove invasives. Plant NOVA Natives and the Brooklyn Botanic Garden also provide ideas for native replacements for invasive species that have a similar look/habit without the unfortunate downsides for the environment. Out with the old and in with the new – sounds like a good New (Gardening) Year's resolution, doesn't it?

English ivy on understory Photo Piiholo-Maui

5. Plant so you have something in bloom from the beginning to the end of the gardening season. Many of us focus on summer blooming plants in our gardens, since that is when we are most likely to be outdoors enjoying our yards. However, pollinators are potentially active anytime the temperatures are above 55 degrees F, which means it is important to have a continuous food supply available in your garden from early spring through late fall. When possible, it is a good practice to have at least three species in bloom at a time so you have options available to suit different pollinators' preferences and needs. Trees and shrubs count! When possible, plant in odd numbered groupings of each species for visual appeal for human eyes and a greater impact for our pollinators. Early blooming trees and shrubs like maples (*Acer spp*.), redbuds (*Cercis canadensis*), willows (*Salix spp*.), and spicebush (*Lindera benzoin*) as well as perennials like wild hyacinth

Shooting star

Asters

Goldenrod

(*Camassia spp*.), shooting star (*Dodecatheon meadia*), spring beauties (*Claytonia virginica*), trout lilies (*Erythronium americanum*), crocuses (*Crocus spp*.), and daffodils (*Narcissus spp*.) can get your garden off to a strong early start and provide crucial resources to pollinators as they emerge and desperately need to forage. In the fall, late blooming perennials like asters (*Symphyotrichum spp*.), goldenrods (*Solidago spp*.), and ironweeds (*Vernonia spp*.) help you to finish the gardening year with a gorgeous show while feeding pollinators like next year's queen bees, who need to bulk up before they hide away for winter, as well as migrating monarch butterflies. Many of us have gaps in bloom in our gardens, so consider making 2024 the year you fill them in – and who doesn't welcome an excuse to buy more plants?

6. Leave the leaves and leave healthy perennial plants standing in fall. In the fall we often see neighbors and landscape companies out there vacuuming up and removing every leaf in sight and cutting perennial beds down to the ground, and many neighbors bag their leaves by the dozen and put them out at the curb to be taken away. But what about the bees, butterflies, and other garden friends you have worked hard to support all year? They need somewhere to hide from cold winter days until it is time for them to be active again in the spring. Don't accidentally send them off with the trash or yard waste! Resolve that 2024 will be the year of cutting back on the cut back, and finding places in your beds where you can let fallen tree leaves lie. If you need to chop the leaves first so they take up less room that is an option, but if you can leave them whole you give the greatest chance possible to the butterflies and moths that laid their eggs on the leaves before they fell, or whose chrysalides are attached to the leaves and intentionally camouflaged and hard to spot. Some people prefer to pile the leaves in a quiet corner of the yard, which also helps give our garden friends a chance. Leaving non-diseased plant stems standing provides places for butterflies to overwinter and future homes for cavity nesting bees, and stems with seedheads provide food for songbirds – not to mention they look stunning in frost and snow. If this seems daunting to those of us who are neatniks, perhaps try it in some parts of your yard, and add more areas in future years. Your local wildlife will thank you, and as a bonus you will be helping improve the quality of your soil as the organic matter from the leaves slowly breaks down and returns nutrients to the soil and feeds countless numbers of organisms in your garden. More information is available here and here about leaving the leaves to benefit wildlife plus social media graphics you can use to tell others about how and why you #Leavetheleaves.

Monarch caterpillar on milkweed

Painted lady on coneflower Photo Wikimedia

These are just a few ideas for best practices you can adopt in your garden in 2024. If you are already using some or all these practices in parts of your garden, that is awesome - thank you and congratulations! Perhaps you can expand these efforts to more areas or coax a family member or neighbor to make their own resolutions. If you are already doing all these things everywhere, check out the LCMG list of best horticultural practices to see if the additional ideas there inspire you to make further changes. Let's make 2024 a year of trying new ways of doing things in our gardens to make a positive difference for our local wildlife and ecosystems. And if it is already too late for you to try some of these this year, like waiting to tidy up your garden, why not resolve to give it a go next year? As a bonus, some actions, like halting lawn or other chemical treatments, or leaving the leaves instead of paying for fertilizer and mulch, save money in addition to their environmental benefits. (Maybe you could use some of those savings to buy more plants…?) This can be our gardens' best year yet! Happy New (Gardening) Year everyone!

Barbara DeRosa-Joynt, Loudoun County Extension Master Gardener

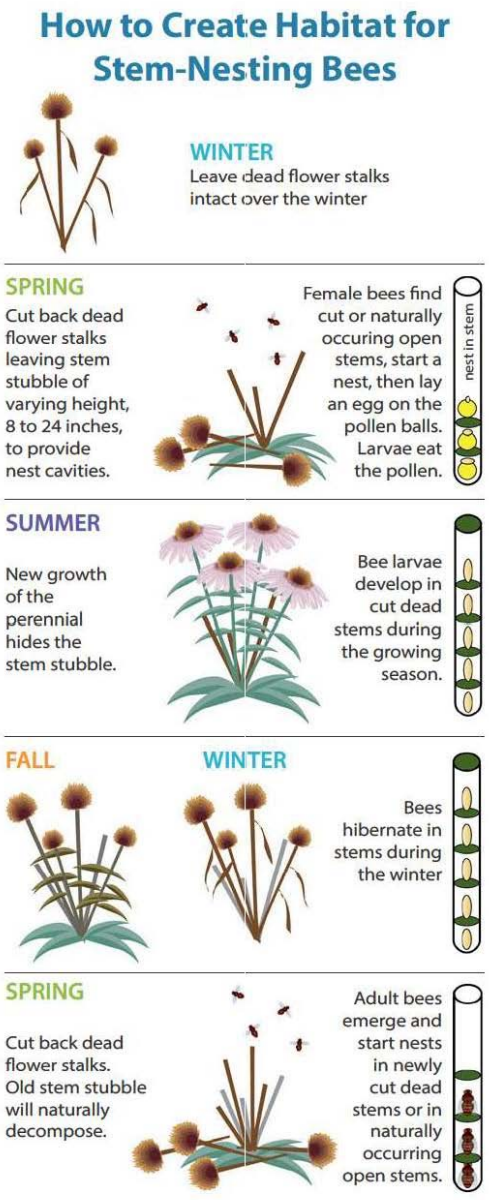
All photos not attributed are by Barbara

Spring Tidy-up in the Perennial Garden

We have all been there, itching to get outside to clean up our yards in springtime after months of being cooped up indoors, ready for the promise of a fresh start at the beginning of the gardening season. In our New (Gardening) Year Resolutions article you were urged to wait until we have had temperatures in the 50s for five days in a row before getting out there in your perennial beds (Note: some sources recommend five *evenings* in a row.) It is also important to ensure that the soil is dry enough that you are not accidentally compacting the soil. Spring is the time that tries our patience! Now that you have waited and you are finally heading into the garden it is easy to feel overwhelmed, but by tackling one type of task at a time you will eventually knock out your "to do" list. Bite sized pieces might include working on a single bed at a time or undertaking one type of task at a time. It is easy to get distracted but do your best to try to stay focused! Below are some key tasks for your spring tidy-up in the perennial garden.

Perennials

Cutting back: This has tremendous visual impact and is arguably one of the most satisfying tasks, albeit one of the most tedious. Many of us were taught to cut everything back to the ground, bag it, and take it to the curb in the fall, but now more gardeners are leaving non-diseased stems standing over the winter to support wildlife in their yards. But that arguably only delays the chore from fall to spring, right? In addition to leaving stems standing over the winter, for the past several years I have been cutting back some of my perennials only partway in spring. Why? Cutting non-diseased stems back to a height of 8-24" protects/provides habitat in two ways: it safeguards overwintering butterfly chrysalides attached to the stems disguised as dead leaves and nearly impossible to spot, and offers places for cavity nesting native queen bees to lay their eggs in spring, thereby creating habitat for cavity nesting bees, which comprise some 30% of our native bee population. In summer these cut stems serve as an incubator for the bee larvae, and in fall and winter these same stems provide protection for the hibernating bees. Each spring, in addition to cutting back last year's live growth to make habitat for *next year's* bees, I also continue to leave in place the stems I cut the *previous* spring because bees could be overwintering inside them. How? I cut hollow or pithy (soft, spongy tissue) plant stems back to 12-18". I can't just look at a stem and estimate the length, so I use my body to help: my knee is about 18" off the ground and from my wrist to shoulder or fingertips to



Xerces Society


Cutting back stems part way

elbow is roughly 18" too – you can also mark the length you want on your clothes with masking or painter's tape as a guide. While many people find the traditional cut-to-the-ground look appealing, this approach also looks very tidy and is clearly intentional. The new year's growth quickly covers or otherwise distracts the eye from the cut stems so soon you don't even notice. Which plants work for this approach? Beebalm (*Monarda spp.*), sunflower (*Helianthus spp*.), ironweed (*Vernonia spp*.), tall coreopsis (*Coreopsis tripteris*), joe pye weed (*Eutrochium spp*.), boneset (*Eupatorium spp*.), mountain mint (*Pycnanthemum spp*.), aster (*Symphyotrichum spp*. and *Eurybia spp*.), blazing star (*Liatris spp*.), coneflower (*Echinacea spp*.), goldenrod (*Solidago spp*.), milkweed (*Asclepias spp*.), raspberry (*Rubus spp*.), bluestar (*Amsonia spp*.), pink muhly grass (*Muhlenbergia capillaris*), switchgrass (*Panicum virgatum*), golden alexander (*Zizia aurea*), oxeye daisy (*Heliopsis helianthoides*), are among those that can serve this purpose – basically stems that are pithy or hollow can be used by bees.

Dividing: While you can in theory divide plants any time of year, spring is an excellent time to divide fall blooming and some summer blooming perennials (though you may cause delayed flowering for summer bloomers). Plants can be divided to rejuvenate them, control their size, or make more plants. Signs that plants need to be divided include having fewer/smaller flowers than normal, being overcrowded/overrunning neighboring plants, dead or thinned out centers of the clump, and sparse foliage at the base of the plant. There is no requirement to divide plants – if they grew well last season they can be left alone unless you want to make more plants from them. Plants are often easier to handle when last year's dead stems and leaves have been removed so you can see what you are doing and the new year's stems and leaves are still small, so divide them after new growth has emerged in spring and is a few inches tall. Try to ensure that clumps you intend to replant have three to five shoots and adequate roots to increase the potential for them to thrive after replanting. If possible, water the plants the day before you intend to divide them so they are well hydrated. Try to divide plants on an overcast day, ideally when rain is in the forecast. Replant divisions right away and water in well to help them settle in as well as possible. More information and tips for successfully dividing plants with different root structures are found in this article. Candidates for dividing include daylilies (*Hermerocallis spp*.), black-eyed Susan (*Rudbeckia spp*.), lambs ear (*Stachys lanata*), yarrow (*Achillea spp*.), tickseed (*Coreopsis verticillata*), green and gold (*Chrysogonum*), catmint (*Nepeta spp*.), stonecrop (*Sedum spp*.), beebalm (*Monarda spp*.), astilbe (*Astilbe spp*.), golden groundsel (*Packera aurea*), bachelor's buttons (*Centaurea montana*), coneflower (*Echinacea spp*.), coral bells (*Heuchera spp*.), garden mums (*Chrysanthemum spp*.), goldenrod (*Solidago spp*.), hosta (*Hosta spp*.), and ferns and ornamental grasses among many others.


Packera aurea

General tidying: If you left the leaves in your beds in the fall, it is likely that winter winds will have blown them around, so rearrange them to evenly spread them around the flowerbed. These leaves are likely sheltering beneficial insects like queen bees, spiders, and others, so try to avoid removing them altogether if possible. Handle them gently – I was surprised when re-spreading leaves one spring to come upon a clump that was appreciably heavy and was awestruck to realize

Leaves in perennial bed

it was a bundle containing a luna moth cocoon, covered and camouflaged by a covering of bound-together leaves, which I gently tucked at the base of a nearby plant. If you don't feel you can keep the leaves in your perennial beds any longer, try to find another place in your yard to tuck the leaves out of sight so you can give the beneficial insects you gave a home to all winter a little more time to emerge safely. With the leaves in your beds serving as mulch and organic matter you can save money and either skip adding topdressing and wood mulch altogether or just add a light coating of mulch for aesthetic appeal instead of a more traditional 2-3" covering. If you didn't retain the leaves in your beds last year you may wish to add a light layer of composted leaf mold before adding mulch. Avoiding/having a light touch with mulch also helps allow overwintering insects to emerge unimpeded once the weather warms sufficiently. Spring is an excellent time to remove winter weeds – many are annuals, such as chickweed, henbit, purple deadnettle, hairy bittercress, and groundsel – before your plants begin actively growing, and many have shallow roots and can be pulled by hand/with hand tools while the soil is moist after spring rains. Aim to remove them before they can set seed. In addition, you can take the opportunity in spring while plants are just starting to wake up to edge your beds or tidy bed lines that have gone wobbly, address areas where turf has crept into the bed, or take the opportunity to expand a flowerbed.

Assess: It is important to have something in bloom from the beginning to the end of the gardening season to support native bees and other pollinators and to look good throughout the growing season. We all have them - where are the gaps in your design? Do you need to add early spring blooming flowers? Were there times when you had lulls in blooming during the year? How late into the fall was your garden flowering? Take a moment to assess your perennial beds to identify where you might want to add plants to address those gaps. A good resource for when Virginia native plants bloom is found here and may give you some ideas to address your garden's downtimes.

Ornamental Grasses

Pink muhly grass Photo Jenny Evers

It is a good practice to leave ornamental grasses standing over the winter so you provide hiding places for wildlife, including beneficial insects, in your garden. As a bonus many look gorgeous with snow and frost, and birds may eat the seeds. Spring is the best time to cut back and, as needed, divide ornamental grasses. You are encouraged to wear long sleeves and gloves when cutting back ornamental grasses as some can be sharp! You may not need to cut back short grasses like sedges (*Carex spp.*), blue oat grass (*Helictotrichon sempervirens*) and others – often you can just pull the old spent leaves by hand. If

Pampas grass *Photo Takashi Hososhima*

that doesn't work you can trim them back by about 2/3. For taller grasses aim to cut them back to around four to six inches tall. For any size ornamental grass be careful not to cut too close to the crown (the place where roots join the rest of the plant) and try to form a rounded dome. Keep an eye out for emerging spring growth and avoid accidentally clipping it if you can. If the grass clump is large you can tie a bungee cord or otherwise tie up the clump like a ponytail to help it from becoming too unwieldy and floppy while you are pruning, though you may still need to take it back in chunks at a time. While I use hand pruners, some people prefer to use hedge clippers or loppers to cut back their ornamental grasses. If your grass is dying out or thinning in the middle of the clump, use the opportunity of having the newly-shorn clump to dig it up and divide into pieces, removing the dead center and replanting only the healthy pieces.

Trees and shrubs

Pruning out dead or damaged branches or those that pose a safety hazard should be done as needed regardless of the time of year. However, pruning to promote good health, encourage new growth, and reshape trees and shrubs needs to be timed correctly for optimal results. Late winter is often considered a good time to prune trees and shrubs before they are actively growing. However, this is highly dependent on the specific species and your reason for pruning. Special care needs to be taken regarding timing of pruning of flowering trees and shrubs, so you don't inadvertently remove this year's or next year's flowers. A deciduous tree pruning calendar and tips for pruning deciduous trees, as well as a shrub pruning calendar and tips for pruning shrubs are available through these links. Conifers generally don't need pruning except to address dead or damaged branches or structural defects. If you think you need to prune a conifer, an evergreen pruning calendar is available here along with a guide to pruning evergreens. Information about pruning basics and tools are found here.

Roses

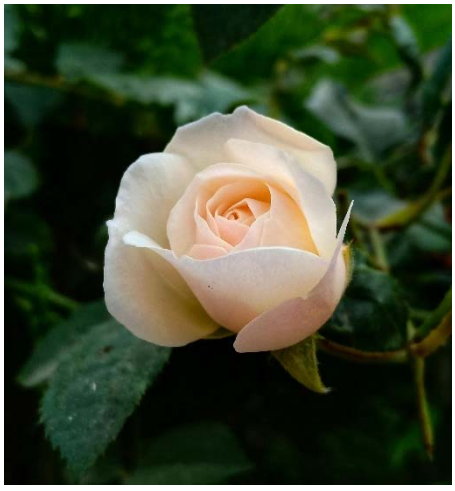


Photo by Nikhil Singh Rajput

Spring is the time to prune roses, aim to do so as the leaf buds begin to swell – some sources suggest doing so when the forsythia are blooming. Prune out dead or diseased canes first, cutting at least an inch below the damaged area. Next prune out stems that cross, grow toward the center of the bush, are thinner than a pencil, or appear weak. The goal is to open up the center of the plant and end up with three to five strong canes, creating an open vase shape that will promote good air circulation. Those remaining canes can be cut back to 12-18" for hybrid teas and grandifloras and 24" for floribunda. Choose an outward facing bud eye (the small bumps on the stem where new growth happens) and cut on a downward slant away from the bud, at a 45-degree angle and about ¼-½" above it. Make sure to clean up all debris from under roses since dead leaves or other plant parts can harbor pests and diseases. Sterilize

your pruners between plants to avoid accidentally transferring diseases. After pruning you may want to fertilize your roses to give them a boost to start the season.

Turf

Spring is a great time to take soil samples. You are encouraged to conduct a soil test every three to four years – you can also test the soil in flower and vegetable beds. A soil test can provide useful insights about whether your turf/beds have any nutrient deficiencies that could impact plant growth. If you want to do it yourself, soil test kits are available at the Extension office (750 Miller Drive, SE, Suite 161, Leesburg, VA 20175.) Beginning in April Master Gardeners will do your soil test for you and provide a comprehensive analysis of the results. This is through our Healthy Virginia Lawns Program. More information about soil tests and a sample information sheet are available via these links. Virginia Tech advises that August – October is the best time to fertilize cool season grasses (these are the most common in Loudoun County: Kentucky bluegrass, tall fescue, and perennial rye grass), with March – April being the best time for applying pre-emergent herbicides to reduce weeds. Following Tech's guidelines for preferred timing can save you money and help protect our watersheds from runoff by avoiding unnecessary application of fertilizers or other chemicals to your lawn.

Bunny enjoying turfgrass. *Photo Pexels.com*

Barbara DeRosa-Joynt, Loudoun County Extension Master Gardener

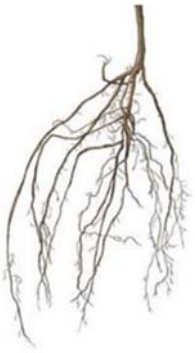
All photos not attributed are by Barbara

Spring Tree Planting

Tree planting is usually thought of as a fall activity that provides the young tree some time to get established before the summer heat and drought. But as long as a newly planted tree can be watered well on a weekly basis all summer long, spring planting can also be successful.

Choosing your tree. As with any plant "Right tree, right place" should be your guide. However, choosing the right tree is particularly important because of the mature size of a tree and its considerable lifespan. Most likely you have a spot identified where you would like to plant a tree, and some ideas about what type of tree to plant. Make sure your spot can accommodate a mature tree of the species you are considering. Measure the space and research the mature size of the tree, the height and even more importantly the spread of its limbs. Do not plant a tree in a space that's too small. Pruning a large tree to fit a small space will only disfigure it and create a permanent problem. Avoid tree species whose roots may invade your pipes, take into account any overhead lines and nearby structure, also, aim for diversity. IN addition to size, consider the requirements of the species you are considering. Part shade or full sun and the soil moisture, does the tree prefer moist or dry soil. If your neighborhood has been planted with a certain type of tree, get something different. Monocultures (one type of plant) encourage pests and disease. Aim to plant a native tree and definitely avoid trees labelled as invasive.

Young trees come in three ways:



Bare root

Containerized

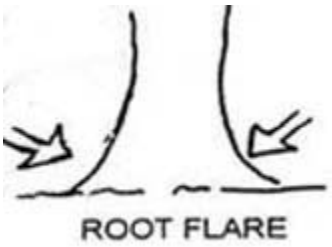
Balled and burlapped

How mature should your new tree be? The desire to instantly fill the space and have a larger tree may suggest that you go for the more expensive balled and burlapped tree. Consider that tree survival, health, and growth depend on its root system. The trees with the most intact root systems are the small trees, especially the bare root trees. The largest trees have lost the majority of their roots in the process of digging them up from their original site. These large trees, even if they survive, will be in shock and fail to grow for up to six or seven years or more. In that time a small tree can take root and overtake the larger trees. As Larry Weiner says, the squirrels seem to do a better job planting oak trees than he does. Younger trees are less expensive, easier to handle and more likely to thrive than the more mature trees.

Make sure your tree is well watered between the time you purchase it and when you plant it. Bare root seedlings should be kept wrapped in wet newspaper. Try to plant your new tree as soon as possible.

Planting the tree. Containerized trees, if they have been in pots too long, are generally very root bound. They should be removed from the pot, all the soil washed off the roots and then the roots should be untangled and straightened out as best as possible before planting. Prior to planting, soak the tree's roots in a bucket of water for one to two hours. Inspect roots and prune any dead, diseased, damaged, broken, or twisted roots but save as much of the root structure as you can.

Tree roots need oxygen and water; therefore, most tree roots are in the top 18" of soil where air and water are most available. The hole for your tree should be 3 times the width of the roots so that the roots can grow wide and freely in uncompacted soil. The tree should be planted so that the root flare is exposed. This is a critical part of the tree that must be exposed.



The root flare may be difficult to find on some trees. Bareroot trees are the most difficult. The flare is just above the roots. When in doubt, plant with a bit more exposed. Trees from a pot may have the root flare buried beneath the soil. Move the soil away until you find it. Trees with the root flare buried will never thrive. The root flare should be right above the level of the soil.

Many shade and fruit trees are propagated by grafting. The graft union is located near the base of the tree's trunk and is denoted by a bulge or crook in the trunk. The graft union is typically 1 to 3 inches above the trunk flare. When planting bare-root trees, be careful not to confuse the graft union with the trunk flare. Your nursery can tell you if the tree was grafted.

While planting, settle the soil with water and adjust the height of root flare with respect to the surrounding soil. Do not amend the soil with purchased soil and do not fertilize. Use the native soil that was dug out of the hole. Amending the planting hole soil can be detrimental because it encourages the root growth to remain within the planting hole rather than spreading outward. **Do not stamp down the soil!**

Mulch your newly planted tree with shredded leaves or fine hardwood mulch in a donut shape around the tree. The mulch should be three inches away from the trunk, no more than 3 inches deep, and 3 feet wide. This should keep the mowers and trimmers away! If your new tree needs additional protection from deer, etc., install a fence that is tall and sturdy enough to protect it from deer grazing or rubbing. If needed you may lightly stake the tree, allowing it some room to sway and move. This motion strengthens the tree. Remove the stakes the following year.

Watering. Water your new tree deeply at least once a week for the first year. Monitor closely during heat waves and droughts. More frequent watering may be necessary during periods of heat and drought. A soaker hose is better than a sprinkler which is more appropriate for turf. Continue to monitor your tree closely for at least two years.

Prune any sprouts that grow from the base of the tree, prune any broken branches, and any rubbing and crossing branches. Do not prune the main leader or branch tips.

The ***Tree Owner's Manual*** by the USDA is highly recommended reading with very helpful graphics. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5368392.pdf

Loudoun County Master Gardener Tree Stewards

Along Comes a Spider

On my second day in my new apartment in the District of Columbia in 1975, I encountered an enormous hairy black spider scuttling across the kitchen floor. I come from a small country with small spiders! I was scared, and I hastily inverted a trash can over it. My native husband identified it as a wolf spider and, I am now sorry to say, dispatched it. I've since learned to appreciate spiders and their wonderful webs, and I know that spiders prey on insects in our homes and gardens and perform an important function reducing numbers of insects.

Orb spinner, zigzag, or writing spider with the clearly visible web pattern.

In the end of summer 2022, I was doing my daily tour of my back yard and saw a very large greenish black and yellow spider with a remarkable web in a patch of lilies. After a little research, I identified this as a yellow garden spider, *Argiope aurantia*. They are orb spinners, common and widely distributed in North America, but I had never seen one before.

All spiders make silk, but the orb-spinning spiders' webs are those that we see sparkling in the morning dew on our lawns or in the corners of our houses. Spider silk is among the strongest natural fibers. Weight for weight it is stronger than Kevlar! Spiders are carnivores, the apex predators of insects, and thus very important to us gardeners. They kill by injecting their prey with a paralyzing neurotoxin and fluid from their gut to liquidize it. They then suck up the liquid through a straw-like appendage. Scientists are now exploring if this neurotoxin has potential in the treatment of Alzheimer's disease.

This spider was my companion for the next six weeks.

My spider was a typical *Argiope* in every way. Her body was about one inch long, and she chose the tall Asiatic lilies as her home. I learned that every night she ate and respun her remarkable web. The outstanding feature of this web is the stabilimentum, the zigzag arrangement in the middle that gives rise to another common name: the zigzag spider. The purpose of this is not really understood. It may provide camouflage, warn off birds, or even attract insect prey. Webs are up to two feet in total diameter. The spider positions herself in the center of the web--mine always just above the zigzag--and waits. When prey disturbs the web, she detects it by the vibrations. Mine was a voracious eater. Any insect caught in the web is prey. Once killed, the prey is securely wrapped in silk and later consumed. A new pristine web is present in the morning.

Orb spinner dispatching her prey.

After several days, the spider became visibly fatter and then disappeared, returning a few days later much slimmed down. Eventually I found the evidence. She had laid her eggs. I never did see the male spider or his web. The males are much smaller than the females. When a male detects a female, he advertises his presence by plucking her web. He transfers sperm using his pedipalp, a sort of modified antenna, to the sperm receptacle on the female's abdomen. Mating takes place once per year, and males usually die afterward. They may be eaten by the female. (Waste not want not!) Eggs are laid at night and wrapped up in a ball of silk. This egg sac may be attached to the web, but my spider attached hers to a nearby lily stalk. My spider repeated this cycle two more times. Each egg sac contains perhaps a thousand eggs. The spiderlings emerge in autumn or the following spring depending on climatic conditions. Some stay where they are, others extrude a silk string and float on the wind, so called ballooning.

Brown egg sac to the right.

Working with just six legs, the spider is unable to wrap a proper egg sac.

At this point, I went on vacation. When I returned, my spider was still there working to reproduce again. But she was now a six-legged spider, and her attempts to construct another egg sac were unsuccessful. Shortly after this, she disappeared completely. It was now October and most yellow garden spiders do not survive winter. I hoped one of her offspring would come back and visit last year, but my hopes were dashed. Maybe this year?

Dervila Jonas, Loudoun County Extension Master Gardener

All photos by Dervila Jonas

Songbirds of Loudoun County

The Loudoun Wildlife Conservancy has identified 30 songbirds living in Loudoun County. Common songbirds are the song sparrow, northern cardinal, tufted titmouse, and the Carolina wren. Other local songbirds include the downy and hairy woodpecker, American goldfinch, blue jay, American robin, mourning dove, red-bellied woodpecker, white-breasted nuthatch, northern mockingbird, Carolina chickadee, dark-eyed junco and the northern flicker.

Birds sing for a variety of reasons including to advertise to potential mates and rivals, to claim their territory, and mark their boundaries. They practice their songs and vary their performance depending on their audience--one type for mates and another for competitors. Changes in day length trigger hormonal changes that prompt a bird to sing. Most species of songbirds learn one or a few variations of songs when they are young and sing those for their entire life without changing.

Young birds are generally predisposed to learn the song of their own species and ignore the songs of other species. They memorize song patterns that they hear before they are three months old. Soon they begin to practice singing, gradually developing vocal control and refining their song until they can consistently reproduce the song model that they memorized in their first few months.

There is a distinction between bird songs and bird calls based on complexity, length, and context. Songs are longer and more complex and are associated with territory, courtship and mating; while calls tend to serve functions such as alarms or keeping members of a flock in contact. Traditionally, bird sounds have been named either for their biological function (“alarm call”, “flight call,” “begging call”, “song”) or for their sound (“chewink”, “chip”, “buzz”, “rattle”).

Male Cardinal Photo by John Eppler. John Eppler Photography.

Northern cardinals only live in North America and are frequently seen in Loudoun County. They are named after the high-ranking members of the Roman Catholic Church with their scarlet robes and high-pointed hat. Unlike most songbirds, the female cardinal also sings. She is a more pleasing singer than her mate. Her music is softer in tone as she sings from a concealed perch. Their songs are often heard in an early dawn chorus on a spring or summer day. Male cardinals sing frequently--usually from a prominent perch--even on sunny winter days. They have a sharp, metallic tik call and bubbly chatter; their song a loud, variable, sweet, slurred whistle.

The song sparrow has many variations – about 40 subspecies have been identified. They can often be heard in backyards in Loudoun County. Their song is a variable series of whistles and trills, some musical, some buzzy; usually starting with three or four bright repetitious notes and ending in a lower buzzy trill. They often sing from exposed perches, showing off their characteristic white breast spot.

Song Sparrow *Photo John Eppler*

The mockingbird gets its name from its habit of mimicking the sounds of other species. A single northern mockingbird can have well over two hundred

Mockingbird *Photo John Eppler*

different songs in its repertoire. On average each male knows about 150 different sounds and mixes them up in every singing bout. This bird can also imitate non-bird noises and the sounds of mechanical devices. Their song is a long series of phrases, with each phrase usually repeated three times or more. The songs can go on for 20 seconds or longer. Northern mockingbirds are prolific songsters who, on occasion, will sing all night.

The European starling has the best repertoire of whistles. Some of them sound just like people whistling, sometimes in wolf-whistle style.

The mournful hooting call of the mourning dove is often mistaken for an owl. They are one of the most widespread species in North America. The mourning dove is closely related to pigeons.

The American robin, the largest and most abundant of the North American thrushes, is probably the most familiar bird across the entire continent. As the breeding season approaches, it is the male that sings first, either late in winter or early spring.

Among the most remarkable features of wrens are their songs, which are loud, rich and varied. Each male Carolina wren knows a repertoire of up to fifty different song phrases, which it uses in various performances to impress mates or rivals.

Carolina Wren *Photo John Eppler*

Northern Flicker *Photo John Eppler*

Many people never suspect that flickers, including the northern flicker, are woodpeckers. They are noisy in spring and summer, giving a loud, clear keew and a long series of wik-wik notes. The flicker population has decreased over the years due to fewer large dead trees for nesting.

Apps for identifying bird songs

There are numerous free apps available which are very helpful for anyone interested in bird songs. *BirdNET* is the easiest way to identify birds by sound and is available for Android and Apple users. *BirdNET* uses artificial intelligence to identify bird songs and calls.

Xeno-canto—which translates to “strange sound”--is a website (xeno-canto.org) that shares wildlife sounds from around the world. The *Bird Call Xeno* app connects to xeno-canto for you to search, listen to, and download bird calls for offline playback. This app has been designed by birders for birders.

The *Merlin Bird ID* app, with its Sound ID feature, identifies 1,054 bird species by sound and is available for Apple and Android devices. This free bird identification app developed by the Cornell Lab of Ornithology is considered to be the most comprehensive app to identify bird sounds. It contains 2 million recorded bird songs from around the world that are then annotated by a team of bird experts. It is operated by opening the app, choosing "sound id" and hitting record. It doesn't guarantee 100% accuracy and may be less precise in remote regions, but correctly identifies birds more than 90% of the time. *Merlin Bird ID* also contains identification support and photos, sound recordings, maps, and descriptions for 10,000+ species around the world. It can be great fun to bring your phone out to your backyard and discover all the birds that are vocalizing.

The *Audubon Bird Guide* app features in-depth, historical details including information about habitat, conservation status, feeding behaviors, diet, nesting and more for over 800 species. The Audubon *Bird Guide* is a complete field guide of North American birds right in your pocket. Built for all experience levels, it will help you identify birds, keep track of the birds you've seen, and is a great tool to use as you get outside and explore the birds around you.

There are other free bird song apps including: Chromatik Bird Song ID, Song Sleuth Bird Call Analyzer, Smart Bird ID, Chirp! Bird Songs and Calls, and iBird Pro Guide to Birds.

Try an app and enjoy all this spring bird song!

Heather Keith, Loudoun County Extension Master Gardener

History of the Language of Flowers

Have an anniversary coming up? Don't have a gift for your friend's birthday? Not sure how to comfort someone? Consider giving flowers, they are always a great way to make someone happy. Every Valentine's Day Americans send more than 200,000 flowers to loved ones. At Christmas we spend nearly $1 billion on flowers. On Mother's Day we spend a whopping $3 billion on flowers. Have you ever sent someone flowers "just because?" Sending someone flowers because they are a great friend, they deserve to be treated, they're in need of some good luck, they had a bad day will really make them feel special. I broke my elbow two days after Christmas. My best friend sent me a beautiful flower arrangement in a bright yellow smiley face bowl and my brother-in-law gave me a big bouquet of flowers. Both were a lovely and unexpected surprise and almost instantly I felt happier. All over the world there are hundreds of thousands of flowers that vary in size, shape, color and smell; few elements are as immediate, personal and accessible as flowers. They deliver an all natural sensory experience through sight, smell, texture and even taste.

In The Beginning

Humans have been gifting flowers to one another for centuries. Archeologists have discovered flower fossils and using those fossils and cutting-edge technology they have determined that flowers have most likely been around since the Paleolithic Age, about 93 million years. According to Jackie Lacey, a floral designer and Director of Education at the Floriography Institute in Jacksonville, Florida, the practice of giving flowers as a gift is "a way for us to speak when there are no words to convey an emotion." People spend hundreds of dollars on floral arrangements and bouquets to express their love and sentiments. But whether you spend $15 or $150 on those flower arrangements, do you know what they mean and how the tradition of flower giving began? And what does the tradition mean in today's world? How did flowers become such a big part of today's culture?

Throughout history, every culture has used flowers for different reasons. In ancient Greece, flowers were considered to be the properties of the gods. During the Victorian Era, showing your emotions was frowned upon and flowers became a way for people to express any type of emotion. Each flower had a specific meaning which depended on a number of factors, including color and size. For example, a red rose meant passion, a pink one meant romance and yellow roses meant friendship. Flowers served as a means of communication—Victorians could carry on whole conversations with each other without saying a word.

Ancient Flower Giving

The practice of giving flowers is a way to express love, compassion, and thoughtfulness. Giving flowers to someone can help us communicate in times when we don't know what to say. Where did this tradition come from? It may surprise you to learn that our ancient ancestors used flowers to express sentiments and meanings. The tradition goes all the way back to ancient Greece, Egypt and the Roman Empire. The Greeks and Romans believed that flowers could be used to express emotion and status. Ancient Greeks gave floral crowns to winners of athletic contests and competitions to signify success and victory. In ancient Rome, lovers conveyed their feelings by giving each other flowers, especially hair wreaths. The middle ages saw the rise of plant symbolism and flowers were given and used to convey particular sentiments.

Ancient Greece

Flowers have always been admired for their color and beauty and were often included in ancient myths. Greek mythology references plants and flowers in the tale of Persephone or in the myth of the flowery transformation of Hyakinthos. But flowers weren't only mentioned in myths and stories. Ancient Greeks associated flowers with the gods and they would bring floral offerings to the temples. Over time, this tradition expanded into giving flowers to pretty women or goddesses and from there the tradition began to change into a way to express sentiment. Jackie Lacey notes that ancient Greeks "used flowers as props for storytelling… [in a] mythology which is full of references to certain flowers being representative of certain gods and goddesses." Although the Greeks revered flowers as "signs of the highest of deities", the great philosophers of the era also spoke of the blooming and wilting process of every flower as a "direct and ever-present reminder from the gods of the briefness of all human lives."

Ancient Egypt

The ancient Greeks weren't the only ones who valued flowers. The Egyptians also considered flowers holy, and included them in their beliefs and traditions. Pharaohs decorated their carts with flowers before heading into war and peasants would adorn themselves with flowers growing along the Nile River. The Egyptians made bouquets, wreaths, garlands, and floral headdresses for many different celebrations and occasions. Ancient Egyptian hieroglyphics show that flowers were put in the tombs of the pharaohs as gifts to ward off evil spirits. They used flowers in festivals such as the 11-day "Beautiful Festival of Opet", which honored the Nile River's powers of fertility. This festival featured intricate floral jewelry made for the ruling class and towering flower arrangements which featured Egypt's treasured blue lotus which was carried on ceremonial altars along a processional path that featured hanging roses, poppies and lily garlands. The Egyptians saw the lotus flower as an image of rebirth and regeneration because it opens in the morning and closes at night. Blue lotus flowers have a heavy perfume and artists would paint images of the deceased breathing in this perfume. The flower held a special meaning to them because of the way it behaved, looked and smelled.

The Victorian Era

The Victorian Era was a time when people tended to not show any emotion. Instead, Victorians would give flowers to express their feelings. People built flower bouquets based on what they wanted to express. Flowers became so important in the Victorian culture that the Royal Gardens gave certain flowers a place of honor. Like everything else the Victorians did, it's no surprise that they put a lot of effort and detail into the meaning of each and every flower. Its color, size, relation to other flowers and even its position in the bouquet all played a key role in the overall meaning. For example, a flower given to someone upside down had the opposite of its original meaning and even the hand used to present the flowers contributed to the overall meaning. Flowers were used to deliver messages that couldn't (or shouldn't) be spoken aloud. Flowers handed to someone with the right hand said "yes" and with the left hand, the answer was "no." How the ribbon that held the bouquet together was tied also carried a meaning. Tied to the left meant the meaning was applied to the giver and tied to the right it was applied to the recipient. The Victorian Era was definitely the most meaningful time period for flower giving because of the extra messages contained in the flower arrangements.

Japan

The tradition of building floral shrines was resurrected during the Asuka period in Japan (538-794), an era of great artistic, political and social change. Flowers became a national art known as “kado” or “way of the flowers” as far back as the 7th century when floral altars were created. It began more as a male discipline but anyone can practice it in today’s society. In modern day Japan, kado pieces are popular as housewarming gifts as well as a means to raise the spirits of the sick (potted plants or flowers are never given though lest the recipient’s illness take deeper root.) The Japanese tradition of giving souvenirs to friends and family (known as omiyage) involves regional flowers in kado arrangements.

France

One of the earliest practices of giving specific meanings to certain flowers began when the French Royal Forces traveled through Turkey in the mid 1500’s. After he returned to his home in France, a high-ranking knight named Louis Girard gave a single lily of the valley to King Charles IX who described the flower as a Turkish good luck charm and a sign of spring’s return. King Charles liked the flower so much that he gave a full bouquet of lilies of the valley to every lady in the royal court, beginning a holiday that became known as *La Fete du Muguet* or *Celebration of the Lily of the Valley*. The tradition spread from the monarchy down to the peasantry and even today, on May 1 you will see flower vendors on the streets of France selling lilies of the valley to passersby. The legend is that anyone who purchases or receives 13 flowers on this day will have great prosperity during the coming year.

England

Just like in France, Victorian England was a society where citizens maintained constant calm and composure so flower giving became a way of expressing strong emotions that might be considered uncomfortable or a breach of etiquette if spoken out loud. As a result, Victorian Englanders developed an art of speaking with flowers (floriography) which included detailed dictionaries to explain specific meanings behind the species, colors, arrangements and number of flowers given. It became a useful means of communication between different social classes. Jackie Lacey notes that during the time of Oscar Wilde in the 1890’s, “many flowers took on special meaning and unspoken messages, including the earliest symbols of the LBGT community.” One of the earliest symbols was a green carnation, worn on the lapel by a man to signify to others that he was “open to same sex liaisons.”

Russia

Russia adopted the language of floriography from western European nations. One uniquely Russian tradition is that the brighter the color of a flower, the more intense is the feeling felt by the giver. For example, white roses are given as a first date gift, pink roses are appropriate for early relationship stages and deep red roses indicate head over heels love. Any color yellow flowers represents lies, sadness and a hint that a break-up is near, as explained in the famous Russian pop song, “Yellow Tulips.” So watch out if your husband or boyfriend gives you yellow flowers! In addition to all the usual reasons for giving flowers, in Russia giving red carnations on national holidays such as Teachers’ Day, Knowledge Day and Women’s Day, is a must. And no matter what the occasion, plants rooted in pots rather than cut flowers are considered to be the proper gift for elderly women as they are a sign of an extended life.

China

In China, flowers known as “The Four Gentlemen” (orchids, plum blossoms, bamboo and chrysanthemums) are used to represent the characteristics of uprightness, purity, humility and perseverance. Mandarin tradition dictates that giving chrysanthemums to a tutor is inappropriate even though the flowers are highly revered and represent an honorable life. It is better to give a tutor sunflowers and carnations which show love and respect to a teacher. Chinese culture believes that giving peonies or dahlias to elders will bring them good fortune and bamboo can give financial success. They also have medical reasons for giving flowers: Japanese honeysuckle and the pagoda flower are considered herbal remedies for the flu and circulatory system illnesses.

Spain

Giving someone flowers in Spain is deemed a serious move and should be sent for special occasions only. Flowers can be sent for weddings, funerals and major holidays and are sent as an appreciation of hospitality. Potted plants are often sent after dinner parties but you should never send chrysanthemums, red roses, dahlias or white lilies as they represent death in Spanish culture. Spanish bluebells are considered free of great emotional meaning and so are a safe bet as long as you remember to count the stems—flowers should be given only in odd numbers (except for the unlucky 13) because even numbered bouquets are saved for funeral gifts.

Australia

On Father’s Day in Australia dads have been receiving flowers since the early Aboriginal era when a father’s biggest responsibility was teaching survival skills to his children. In the Outback a father’s main job was to protect the innocence of his children so in recognition of a father’s bravery, flowers became a gentle gift of gratitude from his children. Australians’ appreciation of flowers is on full display during the annual Melbourne International Flower and Garden Show. The largest such festival in the Southern Hemisphere, it typically draws a crowd of over 100,000 each year.

Germany

In addition to the importance of a flower’s freshness, Germans believe that odd numbers of flower stems are easier to arrange. In fact, many popular blooms grow only an uneven number of petals. Germans are typically more generous with their gifts and to simply be invited to someone’s home merits a bottle of wine for the host and flowers for his or her partner. Favorite flowers to give are tea roses and yellow roses. Red roses are suggestive of deep romance. Before giving flowers in Germany, be sure to unwrap them.

Floriography – The Language of Flowers

Floriography, or the language of flowers, has been around for hundreds of years. Drawing their inspiration from a Turkish tradition, Victorian Era Englanders turned the giving of flowers into an art form. The Victorians were very hesitant to explicitly show their emotions and small bouquets, called tussie-mussies, were the main way they expressed their emotion. There were so many traditions and rules that it was hard to keep it all straight so the Victorians wrote books and guides to use in deciphering the new flower language. These codebooks contained topics ranging from the emotions each flower represented to the ideal bouquet arrangement. William Shakespeare’s works were very popular in Victorian England and in Act 4, Scene 5, lines 199-201 of “Hamlet”, his potential wife Ophelia laments, “There’s rosemary, that’s for remembrance. Pray you, love, remember. And there are pansies, that are for thoughts…” Just about every house had a guidebook

and studying them became a popular pastime. These floral dictionaries helped people decode the messages they received through flower arrangements. From there the rest of the world caught on. Japan had its own set of interpretations known as “hanakotoba, which also means the “language of flowers” in Japanese.

However, floriography isn’t without its share of troubles. There have been so many publications on it throughout the centuries that the different interpretations have made knowing the true meaning of flowers problematic. By the last half of the 20th century, the sentiments that various flowers represent have been largely forgotten. Only the tradition of giving flowers remains constant. Although the meanings may have changed or been forgotten, bouquets still should send a sincere message—from the deep love represented by tulips and red roses to the ephemeral nature of life by cherry blossoms. The bottom line is that flowers convey various meanings so if you want to give someone flowers to express your feelings, take some time to understand what the flowers represent.

The Meanings Behind Popular Flowers

AMARYLLIS – Pride, beauty, love and determination. The name comes from the Greek word “amarysso” which means “to sparkle” and is associated with Greek mythology. According to the story the amaryllis grew from the blood of a maiden who sacrificed herself to win a shepherd’s love.

DAISY – Innocence, goodness and purity. The daisy has spiritual and mythological ties to the Norse goddess Freyja (goddess of love, fertility and war), as well as the Virgin Mary. In Roman mythology, a nymph names Belides turned herself into a daisy to escape a god’s attention.

DAFFODIL – Unrequited love and respect. The flower derives its name from Greek mythology’s Narcissus, son of the river god Cephissus. According to the legend, Narcissus fell in love with his reflection in a body of water and eventually died because he could not look away.

DAY LILY - Motherhood. This association dates back to the Tang dynasty (618-907) where poets began to use the day lily as a symbol of motherhood.

HYACINTH (and MUSCARI) – Sport and playfulness. According to Greek mythology, a boy named Hyakinthos was killed while learning to throw a discus with the god Apollo and a flower arose from his blood. The flower was named in his honor

LILY – Fertility and love. The goddess of Ishtar in the Mesopotamia religion, goddess of love and war, is associated with lilies. Also, illustrations show the Archangel Gabriel handing lilies to the Virgin Mary.

ORCHID – From the Greek word, “orchis” (testicle). The Greeks believed that if a pregnant woman ate orchids her unborn child would turn into a boy.

ROSE – Love and beauty. Roses have different meanings based on their color. The ancient Greeks credited the creation of the red rose to their goddess of love, Aphrodite, and the ancient Romans linked it to an accident involving Venus and her son, Cupid.

TULIPS – Perfect love and perfection. The meaning behind tulips can be traced back to Persian mythology and the legend of Farhad, a young prince, and the maiden he loved, Shirin. Farhad

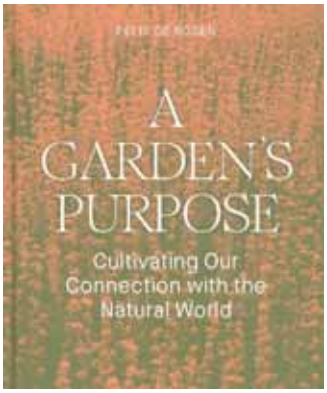
sacrificed himself after he was told Shirin had died. The tulip rose grew from the blood of his sacrifice.

The special meaning behind giving flowers has been an important part of many cultures and thanks to our ancestors, the language of flowers has helped people share deep feelings and sentiments for centuries. Even though you may not know the meaning behind the number or color of roses or of a single orchid, flowers still convey special meanings when they are given as gifts. The language of flowers continues to have an important role in today's society.

Jayne Collins, Loudoun County Extension Master Gardener

Photo by Jayne Collins

Book Review: "A Garden's Purpose, Cultivating Our Connection to the Natural World" by Felix de Rosen



This relatively slim book, published in 2023, is an ode to the garden--any type or size garden. The author, Felix de Rosen, is an ecological garden designer focusing on biodiversity. He is located in Oakland, California, and is a graduate of the University of California at Berkeley and Harvard University.

De Rosen suggests that gardens can be found everywhere--from the planned and well-maintained plot to the cracks in the pavement. This book does not teach how to design but suggests the many considerations gardeners should keep in mind to create the garden they have in their imagination.

De Rosen reminds us early in the book that nature and the garden are places of wonder and enjoyment. The best and easiest way to approach the garden is to determine what the existing area says to the planner and how the planner chooses to react to it. Gardens offer the gardener and the observer a healing experience because they remind us that we are connected to nature. How you design and build your garden will tell people what you value and what makes you happy. We hope what we build makes others happy as well and may give them some interesting new ideas.

Many elements of garden design are included in the book. None is recommended over any other. Design elements such as fences, walls, paths, edges, slopes, and height (planters and pots) are mentioned and discussed as ideas to keep in mind and inform a planner's approach to a space under consideration. An example of de Rosen's approach is captured in this excerpt from a longer discussion of edges (page 71):

> *An edge, when it comes to paths and garden design, is simply the end of one area and the beginning of another. We can demark the edge with something material – and there are good reasons to do this. A separate edge can be functional – helping prevent soil from spilling into a walking area… Edges can serve a purely visual role, by defining the boundary of a path or by creating a threshold that announces the beginning of a new garden space. They can divide a large area into smaller, more intimate spaces. These divisions can be abrupt and clear (i.e., function like walls) or they can be soft (e.g., gravel gradually giving way to soil).*
>
> *Although edges might seem like minor details in the garden, they are powerful tools that help us define space.*

De Rosen's message on paths is that they not only take us from one place to another in the garden, but they also can tell a story as they lead us through the garden and interact with the plants and spaces around the plants. Paths give us the opportunity to define how we want to organize the space. The material we use to create a path can add greatly to the character of the path.

Ground surfaces we choose to use in and around the garden, whether bare soil, permeable surfaces, mulch, wood, pavers, or pavement, influence the flow of water and provide different habitats for plants, insects, and animals. We can mix and match ground surfaces to create interesting designs.

De Rosen discusses slopes and various elevation changes. Moving from yard to street level by stepping off a curb is as intrinsic to our lives as are steep slopes like major hills and high-rise buildings. He admonishes the reader to work with the topography rather than against it. We can utilize plant roots, seed mixes, biodegradable materials, and hard materials like concrete to stabilize a slope. Using steps to allow people to move through sloping gardens offers an opportunity to be creative in where and how the steps are implemented. He also challenges the reader to consider doing the least possible intervention to a slope and letting it remain as natural as possible.

He devotes a chapter to the interest and joy of using planters and pots. Containers can be almost anything that will hold soil, water, and plantings. They can be one of the more eye-catching parts of a garden. They can stand in for a garden when we live someplace that only provides us with a balcony or a very small area in which to grow things. Containers are also mobile, so they can be moved from one spot to another depending on the weather, sun and shade, or the whim of the gardener.

De Rosen urges the gardener to keep in mind that a garden can, and probably should, be a place to play, relax, and unwind. Even if you are a vegetable gardener who works hard to grow a lot of produce, still think if your garden space as your refuge.

He touches on garden observation and maintenance as important for the gardener. The gardener should determine the goal: to evolve the garden as the plants grow and change, or to keep the garden looking the same year after year. Is the gardener willing to spend time doing high maintenance or to allow the garden to have some control over its evolution? Each method means a different approach to the garden.

A chapter is devoted to the size and shape of plants. This is one of the basic concepts of garden design that we may sometimes take for granted. He discusses the use of trees in a garden. Many of us who live in suburban neighborhoods don't work with trees in a garden design. Trees are large, possibly too large for the space we may have in our yards. Trees also take a long time to reach their height and width, and many people move from their homes well before a tree reaches maturity. Those of us who move into areas with fully grown trees often don't know how to best utilize them in a garden design.

Plant colors and textures—of both leaf and flower--are important design variables. Most gardeners are well aware of flower colors and plant heights. But using leaf colors and textures in a garden provides a subtle and fascinating look.

Many of the gardens de Rosen discusses and uses as examples are set in former waste areas like abandoned parking lots and roadsides. This may be the most interesting and exciting concept: that you can turn almost any area into an interesting "garden" as long as you consider the soil, water, and light availability and the type of plants that will grow there.

This book is filled with beautiful pictures taken all over the world to illustrate de Rosen's points.

Although this book does not teach garden design per se, it introduces us to and reminds us of the many aspects we can consider in creating and evolving a garden that fits our personality, and/or the objective of the garden (whether private or public), and/or the physical properties of the garden space.

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