



Trumpet Vine

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

Spring 2020

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LOUDOUN COUNTY EXTENSION MASTER GARDENER LECTURE SERIES

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We Can Depend on Spring

In these uncertain times, there is great comfort in the inevitability of spring. Trees are budding out and some magnolias are beginning to bloom. (We won't celebrate the Bradford pears! Ugh!) Daffodils are in bloom, and the spring wildflowers are emerging. Bloodroot is up and blooming on sunny slopes, and the Virginia bluebells are beginning to emerge.

It seems intuitive that with longer periods of sun and rising temperatures, plants are growing and blooming but what triggers the plants is really just the opposite.

In the fall, plants go dormant when the nights lengthen and then they start to sprout when the nights shorten. Also, some plants are able to measure the amount of cold that has occurred and when a sufficient number of chilling hours accumulates, they are triggered to bloom or send out new growth.

Observe the spring wildflowers as they emerge. Some good sites are the Balls Bluff Regional Park in northeast Leesburg, River Bend Park in Great Falls, or just a local trail in a wooded area or along a stream.



Sessile Trillium



Squirrel Corn

Leesburg Flower & Garden Festival is Cancelled But We Plan to be Selling Plants!

The Master Gardeners are at it again, planning to delight you with a selection of vegetable and herb garden plants, a selection of our favorite garden tools, and a few Master Gardener-grown native plants.

The selection of eleven varieties of tomato plants includes heirloom beefsteak, Roma, a one-of-a-kind sauce variety, along with container plants for your porch or patio, and poppable cherry sizes. The ten pepper plant offerings span the array of sweet large bell peppers, to sweet snack and grilling peppers, to the mildly hot and those that are not for the faint of heart (tongue?!). Our favorite basil plants will also be back along with rosemary, parsley, and thyme. A complete list of varieties and a description of their qualities is attached to this publication. Please ignore the date and place on the list. **Let's get planting!**

And we cannot resist sharing a few of our favorite garden tools and new this year... a selection of native plants!

The Flower and Garden Festival has been cancelled but we still have plants under grow lights and others on order. We will put our heads together and determine a good place and time to offer our products to our customers, if feasible, based on the guidelines we will have in April. Watch your email and our website!

2019 Leesburg Flower & Garden Festival Loudoun County Master Gardeners Booth



Photo by Joseph Guirrerri.

Katie Conaway, Loudoun County Extension Master Gardener

Planting Your First Vegetable Garden

If you are now just considering growing some vegetables, by all means give it a try, but start with a project that can be successful. It's important to experience success when you start and then increase your scope gradually.

Here are some key things to consider:

- What vegetables and herbs do you enjoy eating? Plant something you will use and enjoy.
- How much sun do you have in the area you will use for growing? Most vegetables require full sun but some, such as lettuce, herbs, and some peppers, can do well with less. Research the required sunlight for the plants you are considering.
- Plant in a spot that will be convenient. Plant close to the house so you can monitor the plants and easily pull a weed, spot insect problems, and monitor wilting. Plant close to a water supply.
- How much time do you have to devote to your garden? If you have doubts that you can care for a garden, start with just one or two container plants. These will require less time and a smaller investment than a bigger garden would.
- Will there be any interruptions in care? Are you planning a vacation and if so, for how long? The best garden can perish while you are away on vacation during a very hot and dry period. Make sure you can enlist someone to monitor and water your vegetables.



Patio tomato with sage as a companion plant in a cloth grow bag. Photo by Denise Palmer.

We recommend that you start your beginner garden in a variety of containers rather than planting your vegetables directly in the soil. Some of the advantages of using containers are:

- Planting in containers requires less space.
- Plants in containers require much less weeding.
- Container plants have fewer diseases and problems with critters.
- Containers allow the use of good quality potting soil.
- Most containers can be moved. Plants may do better in particularly hot weather if they can be moved out of full sun temporarily.

Selected plants can do well in pots, boxes, barrels, grow bags, and other large containers. Even potatoes can be grown in containers. Don't skimp on the size of the container. More soil holds more moisture and nutrients. Understand the size of a mature plant and choose an appropriately sized container. Some plants will require a cage or a trellis; in such case, you'll need a large container so the plant and its support don't fall over.



Flat leaf parsley in a grow bag. This parsley flourished all winter. The bag was brought close to the door when the temps got low or was covered on cold nights. Photo by Carol Ivory

Some plants well-suited for containers are patio or bush tomatoes, peppers, radishes, lettuce, arugula, parsley, small eggplant, kale, Swiss chard, and zucchini. Some plants are best started indoors or purchased. For the new gardener, starting indoors can be a challenge. Buy your pepper and tomato plants so they have a good start and you will get some produce earlier rather than later. Start your radish, lettuce, and arugula from seed. The others are your choice to buy or grow from seed in outside containers. Seed packages contain the planting information that you will need. Read carefully.

Good luck with your garden. If you have any questions or problems, contact the Master Gardener Help Desk, Loudounmg@vt.edu.

Carol Ivory, Loudoun County Extension Master Gardener

Perlite Versus Vermiculite

Have you ever thought about uses for perlite versus vermiculite? Granted, it is not what keeps me awake at night. However, frequently you'll hear the terms used interchangeably as if they can be used for the same purposes. If you're a do-it-yourselfer and like to mix or make your own potting soil or growing medium, it's important to understand the basic qualities of each. If you prefer to purchase readymade potting soil, a quick check of the ingredients listed on the bag (and your intended use of the soil) may determine whether perlite or vermiculite should be added. This article will explain the general differences between perlite and vermiculite and offer recommendations on their use.

So what is perlite? Perlite is a naturally occurring, nonrenewable, inorganic, siliceous volcanic



Perlite. Photo by Scott Wolz.

rock that is produced by mining ore and grinding it to a desired particle size. After grinding, ore is heated to between 1,800 and 3,200 degrees Fahrenheit (F). Heating causes the ore to expand (or "pop"), anywhere between four and twenty times its original volume. The heating results in a lightweight, sterile, white porous aggregate with a neutral pH of 6.5 to 7.5. Aggregate sizes vary within the horticultural industry depending on intended use. Perlite particle size for plug mixes is sieved to a smaller aggregate, while mixes used for containers and flats contain larger aggregates. As a finished aggregate, the surface of perlite has a closed-cell structure that does not absorb water. However, water will adhere to the surface and provides airspace within the mixture. Some disadvantages of perlite include: 1) tendency to float to the top of medium when

watered; 2) inability to hold or retain water; and 3) a need to be moistened before it's mixed into other ingredients to reduce dust, which is harmful if inhaled. Additionally, perlite can cause fluoride burn on some foliage plants, usually on the tips of the leaves. The burn may progress from the tip up the leaf. To avoid fluoride burns, when mixing potting medium, add one and one-half times the recommended amount of agricultural lime when mixing (VCE Pub. 426-100).

So what is vermiculite? It is a mined mica-like ore, silicate mineral. Mineral water is contained between ore plates. When the ore is heated to approximately 1,800 degrees F, the plates move apart into an open, accordion-like structure. Once expanded, processors grade vermiculite based on particle sizes (extra-coarse to fine). It is very light and sterile and has high water retention, low bulk density, and good aeration (unlike perlite, water will enter the particle cells within vermiculite giving it higher water retention). Vermiculite has a pH of 6.5 to 7.2 and a high nutrient content of potassium, calcium, and magnesium making it a desirable substrate component. Over time, vermiculite can easily compact, which reduces its ability to hold water and



Vermiculite. Photo by Scott Wolz.

air.

So when should I use perlite versus vermiculite? In general, for both drainage and aeration, use perlite. Think cacti and succulents. Coarse perlite alone can be used to start root cuttings for cactus-type plants that would ordinarily rot in higher moisture medium. Perlite is also good for seed starting or blending into a potting medium to reduce compaction.

Vermiculite is also good for seed starting or blending into potting medium. Vermiculite will hold large quantities of air, water, and nutrients needed for plant growth but will “collapse” over time, thereby losing some of its positive characteristics. Perlite tends to keep its shape and consistency over time thus retaining aeration for roots. As a result, you’ll typically see potting soil ingredients (or formula) include both perlite and vermiculite for their complimentary benefits.

Hopefully, you find this information helpful and better understand that perlite and vermiculite are not necessarily interchangeable.

Resources and References:

[UCE Pub. 426-002, Propagation by Cuttings, Layering and Division](#)

[UCE Pub. 426-100, Indoor Plant Culture](#)

[Penn State Homemade Potting-Media](#)

[Purdue Extension; Evaluating Container Substrates and their Components](#)

[Purdue Extension; Characteristics of Soilless Substrates](#)

[University of Vermont; Potting Mixes for Organic Growers](#)

Scott Wolz, Loudoun County Extension Master Gardener

Spring Lawn Maintenance



Photo taken from VCE website, Lawn and Garden--Turf and Garden Tips podcast.

Well, here we are looking forward to spring and all the possibilities in the growing season. So many are planning vegetable gardens and landscaping, contemplating what can survive in sun or shade or attract pollinators to keep everything thriving--so much to consider. There are others out in the yard, however, heads tilted to one side, hands under chins, surveying the large green sections of their own domains. Yes, the sections that will involve mowing and edging with the sound of power machinery signaling that this homeowner cares, that this homeowner will be rewarded with a yard that looks *good*. Let's face it, when the lawn looks good, all the flower beds, shrubs, and trees go from pretty nice to *showcased*! And it's not just a pretty green face; a thick healthy lawn holds nutrients in the soil, resists weeds, and slows water runoff.

Although every homeowner wants a great looking lawn, that end state can be a bit elusive given that most live in developments where all the good top soil was removed during the neighborhood's construction and the fact that they really don't know what their particular lawn needs. So many go to the store and put their trust in lawn product companies that tell them to buy more stuff and put more stuff on their lawns throughout the year. This doesn't help your lawn or your wallet.

So, what is a homeowner to do? I mean spring is almost here, so we have to start doing stuff, right? Yes, by all means, let's do stuff, but do the right stuff. The lawn requirements of every yard are unique due to soil conditions, shading, different levels of care over the years, and other factors. A great first step is to turn to your local Virginia Cooperative Extension (VCE) office for a lawn evaluation. The Master Gardeners will analyze your lawn's condition and provide you a plan that will remove the guess work, helping you achieve a healthy lawn that will look great, save you money, stand up to the harsh summer months, *look great*, prevent the leaching of excess nutrients into our waterways (which is the result of applying excess products), and ***look great!***

What does the evaluation entail? The Master Gardeners will measure your lawn space, take soil samples to send to Virginia Tech for analysis, and evaluate shade, sun, weeds, and problem areas. In the end, the homeowner receives a full report based on Virginia Tech research telling the homeowner in plain English whether or not to add lime (since lawns only need lime when their

soil pH levels are too low) and how much, exactly what type of fertilizer to use and how much, how to deal with weeds, how much lawn compost to use, when to aerate, recommended grass seed, mowing heights, etc. They can even tell you how much and how often to water so you (or your kids, who *never* complain about house chores) can spend less time on watering and have more time to do other things. The report is easy to use and provides the homeowner a schedule for the whole year specifying exactly when and how much right stuff to apply. And, if the Master Gardeners note other issues during their visit, the report will address those as well.

So what sorts of things should we do in the spring? The to-do list is fairly short. For cool season grasses like fescues and bluegrasses, which most homeowners in this area have, spring is the time for defense (this discussion is oriented to cool season grasses, though if you have warm season grass your local Master Gardeners are ready to help you with that as well). Yes, it's the time to focus on weeds. In early spring when forsythia is in bloom you should focus on grass-like weeds like crab grass, then later control broadleaf weeds while they are actively growing. Consider that broadleaf weed control is best conducted in the fall and in early spring on a warm day before those weeds come into bloom, and some weeds require repeat applications at specified intervals. Remember that weed killers are herbicides, which can be harmful if applied in excess, so please use the right product for the right purpose and follow the directions carefully. Try to avoid weed "and feed" products if you do not know your fertilizer requirements. Please turn to your local VCE website for more information and to develop the best strategy for weed control.

What about fertilizer? There is a limited amount you could apply beginning in May (this application is even optional). The major part of fertilization should be done according to your soil analysis and, for cool season grasses, in the fall, because fall is when cool season varieties grow best. This strategy definitely goes against big box marketing, since it is based on science, not on sales. For established lawns, please do not go out and buy 10-10-10 fertilizer (readily available in this area) unless your soil analysis tells you this is what you need. Those three numbers found on every fertilizer bag are a rating that represents the ratio of nitrogen, phosphorous, and potassium in that order. If you apply too much of any component, and it cannot be absorbed by your turf because it's not needed, then those excess nutrients will find their way into our waterways as pollutants. Therefore, it's important to use just the right amount of the right type of fertilizer for your particular situation. This VCE spring lawn fertilization podcast explains the importance of a soil test and of showing restraint in spring fertilization, and it explains nutrients important to turf: https://ext.vt.edu/lawn-garden/turfandgardentips/tips/spring_fertilization.html .

To seed or not to seed? In general, if you have cool season grass like fescue, spring is not--I repeat not--a good time to overseed. Let's say you go ahead and put seed down. As temperatures warm and you've watered consistently, you find that your little seedlings are brightly colored and look great through the spring. Then summer hits us with those really hot temperatures that get the weather analysts talking and send us into the comfort of air conditioning. Although you've watered consistently, that newly planted grass doesn't last and eventually dies out, encouraging weeds to fill in. This is because new spring grass will generally not have enough time to develop strong root systems or sufficient food stores to withstand the very hot summer weather that arrives all too quickly. The optimal time to overseed is in the fall; warm temperatures help germinate the seed and the following cooler climate helps build healthy root systems in our cool season grasses before winter hits. Then in spring, the root systems further develop to help your

grass survive the coming summer. Here is a link to a VCE podcast that provides more detail:
<https://ext.vt.edu/lawn-garden/turfandgardentips/tips/Breakspringseedcycle.html> .

However, if you simply cannot resist the urge to overseed in the spring, please pay special attention to seed type, timing, and selection of weed killers you might apply so as not to harm the seed you want to grow.

Mowing. In brief, don't mow your grass too short. Mow at a height of three to four inches. Longer grass blades absorb optimal levels of nutrients from sunlight during photosynthesis. Longer grass blades reduce weeds by denying them sunlight. Longer grass blades slow water runoff, giving it more time to absorb into the soil where it's needed; yes, it's ok to horde rainfall. Sharpen your mower blades every year and don't mow more than one third of the blade height at a time. If possible, leave grass clippings where they fall to decompose and add nutrients to the soil, but remove large clumps of clippings.

Your VCE office stands ready to provide you the best lawn advice based on Virginia Tech research. Please visit our website for links to a wide range of science-based articles to address your specific questions or contact us directly. Remember, whether you want a great lawn to provide personal satisfaction, to maintain the health of our environment, to spark the envy of your neighbors, or for all of the above reasons, we're here to help. Here is a link to information on the Healthy Virginia Lawns program and how to sign up:
<http://loudouncountymastergardeners.org/programs/healthy-virginia-lawns/>.

I hope this information helps you to understand that spring is a great time to get a soil test and that your spring lawn chores are minimal. You can use the extra free time for other activities. In the fall, you can pull out the tools, do the more extensive fall lawn prep, and then stand with your hands on your hips to survey your awesome handiwork knowing that the following spring your lawn will impress the neighbors!

Joseph Sanchez, Loudoun County Extension Master Gardener

Spring Wild Flowers for Your Garden

Spring wildflowers have a magical quality. They appear in the early spring while frost and even snow still threaten. They appear to be fragile but bloom under harsh conditions and then some of them disappear as quickly as they appeared. We see them along woodland trails and along creeks and streams, but some of them are not as finicky as they are reputed to be and can grow in your shade gardens giving you the same spring surprise and pleasure as the ones in the wild. The following flowers are proven garden performers that can be purchased at more selective garden centers and from native plant nurseries.

Virginia Bluebells (*Mertensia virginica*)--Virginia bluebells are the iconic spring wildflowers of this area, blooming in early April. Unlike many spring wildflowers, Virginia bluebells are large, leafy plants, often growing two to two and a half feet tall. But these are true ephemerals and will totally disappear by June. This makes them a perfect plant to share space with ferns and hostas that emerge as the bluebells melt into the Earth. Bluebells also spread delightfully by rhizomes and seeds that ants will carry off some distance from the main clump. Plant them in areas that will be shaded when the trees leaf out and in areas where they can naturalize over time. Four or five one-gallon plants will fill an area in just a few years.



Spring Beauties (*Claytonia virginica*)--These are most frequently seen carpeting the forest floor in the spring. They prefer dappled sunlight during the spring, moist to slightly dry conditions, and a rich loamy soil with abundant organic matter. This wildflower will adapt to semi-shaded areas of lawns if mowing is delayed during the spring until the flower dies back. Spring beauties provide early pollen and nectar to native bees and flies. These tiny plants grow from corms and seeds and will spread in areas that suit them.

Solomon's Seal (*Polygonatum pubescens*)--Solomon's seal have flowers hanging from the arching stem. False Solomon's seal (*Maianthemum racemosum*), also a native plant, have flowers only at the tip of the stem. The two often grow together in the wild. Solomon's seal bloom from mid to late spring, lasting about three weeks. During the summer, the flowers are replaced by berries that mature and turn dark blue-violet to black. Small clonal colonies are often produced from rhizomes.





Twinleaf (*Jeffersonia diphylla*) is a spectacular little plant whether you find it in a forest or grow it in your wooded garden. While it is considered rare in the wild, it's a tough little plant and comes back each year to bloom and produce a large woody seed capsule with a hinged lid that pops open when it's ripe. Each plant produces a one-inch-wide white flower with eight petals atop a leafless stalk. The leaves are basal, long-stemmed, and divided lengthwise into wing-like halves. This is an early bloomer that all types of pollinators love. Twinleaf can be found in abundance along the bluff at Balls Bluff in Leesburg.

Rue Anemone (*Thalictrum thalictroides*) is also called windflower because of the movement of the flowers on slender stems. The distinctive three-lobed leaves are similar to those of the Meadow Rue. The plant is in the buttercup family--note the appearance of the flower. This is a charming little flower that grows four to eight inches in height. The flower lacks nectar and attracts pollinators through its color and flower shape, mimicking flowers that do have nectar. But pollination is chancy and the plant mainly reproduces via its roots. Rue anemone is best planted under deciduous trees. It prefers dappled sunlight during the spring but tolerates considerable shade later in the year.



Wild Columbine (*Aquilegia canadensis*)--This spring bloomer with a showy flower loves to hang off embankments and rocky ledges in the wild but will be quite happy in your well-drained garden as well. Wild columbine always has a red flower with a yellow center. This color scheme attracts hummingbirds, and they are the most efficient pollinators of columbine. It grows to about two feet tall in bright shade and is most easily propagated by seed. Seeds may be sown immediately after collection or stored and given a cold-moist treatment (see article on germination in this publication). Sow seed in fall as soon as temperature drops and in spring before the worst heat. Sow by just scattering on the surface and lightly tamping. Seedlings will flower the second year. Purchase seed from native plant seed companies.



For information on where to purchase native plants locally see the [Plant NOVA Natives website](#).

All photos in this article by Carol Ivory either in her backyard or at Balls Bluff Park in Leesburg.

Carol Ivory, Loudoun County Extension Master Gardener

Thrilling Trilliums

One sure sign of spring is the appearance of trilliums (*Trillium* spp. and cvs.) in vast swaths in forests and woodlands throughout Virginia. Plants native to Virginia, they have been described as "...a simple, graceful perennial that is one of the most familiar and beloved of the spring woodland wildflowers in eastern North America."¹ With about 39 species available, trilliums come in different colors and sizes and can add early spring interest to shadier areas of your garden.

Part of the Liliales (lily) order, trilliums have a number of common names. Often referred to as "wake-robin" because they bloom when the first robins appear, their more whimsical common name is "toad shade" because some think the leaves and flowers resemble toad-sized umbrellas. In a previous time, the plant was referred to as "birthroot" and used as a medicine to ease childbirth.

However, the common name that best describes a trillium is "trinity flower" given that its leaves, petals, and sepals all occur in threes. Most varieties have a single flower on a slender stalk that arises from a whorl (leaves that encircle the stem at the same level) of three broad bracts (modified leaves). The flower has three petals with wavy edges, and behind the flower, three sepals are visible.

Trilliums are herbaceous perennials that grow in USDA Hardiness Zones 4 to 8. They are low growing with most varieties reaching 12 to 15 inches in height and 12 to 18 inches in width. Given the right conditions, they are fairly easy to grow rhizomes that slowly spread out to form mats when left undisturbed in woodlands. Amazingly, they can live up to 25 years! Depending on the variety, they bloom in early to mid-spring. Trillium plants thrive when the soil pH is neutral to slightly acidic. When planted in a home garden, they need soil similar to that found on the forest floor--a soil that is rich in organic matter and has regular moisture (but not standing water). By using leaf mulch, you can help mimic forest conditions and enrich the soil to support these plants.

As these are woodland flowers, they do best in partial to full shade, with one important caveat. These early bloomers have a key requirement--they need access to the early spring sunlight that reaches the ground before tree canopies leaf out. The dormant plants need the sunlight that filters through tree and shrub branches in order to grow. Therefore, don't plant the rhizomes in an area that is in full shade year round.

While it might be tempting to dig up some of those beautiful specimens that you see as you walk in parks and woodlands, please don't do it! Be aware that some species are protected by law, and some are endangered. So it is best to buy them from reputable nurseries, many of which are carrying more varieties of these native plants.

When the summer heat arrives, trilliums will die back. Do not cut them back because this will interrupt their storage of reserves needed to grow and bloom the next year. If they are planted in shady garden borders, it is best to plant them among ferns, Solomon's seal, and other plants that will provide interest once the trilliums die back. Trilliums are not a competitive bunch, so take care not to surround them by ground covers and other perennials that are particularly

¹ www.missouribotanicalgarden.org/PlantFinderDetails.aspx?kempercode=f317.

aggressive. Also take special care to not plant trilliums close to trees or shrubs where the rhizomes of the trillium would have to compete for water.

Late summer and early fall are the best times to plant trilliums, and these are also the best times to propagate the plants by division. Use a garden fork to lift the rhizomes from the soil, divide them, and then plant the stock plant and its offshoots two to three inches below the surface. Trilliums do not propagate well from cuttings, and seeds can take two years to germinate and then it can be five to seven years before blooms appear.

Other than deer, trilliums have no serious pest or disease problems. Deer will graze on the plants and can also spread invasive plants such as garlic mustard through droppings and seeds between their hooves. The garlic mustard will compete for space, limiting the spread of trilliums.

Varieties of interest include:

- *Trillium grandiflorum* (Wood Lily; White Wake-Robin): a white flower found in Virginia forests that opens in late March and early April and blooms for several weeks. The white flowers fade to pink as the flowers age.
- *Trillium undulatum* (Painted Trillium): A stunning variety found in the mountains of southwest Virginia with light green bracts that have a copper tinge. Edges of the petals undulate, and deep scarlet stripes radiate from the center of the flower.
- *Trillium pusillum* var. *virginianum* (Virginia Dwarf Trillium): Smaller variety with a height of about eight inches; bloom colors can be white, pink, or green.



[PHOTO SOURCES: *Trillium grandiflorum*--Missouri Botanical Garden; *Trillium undulatum*--USDA Plants Database; *Trillium pusillum* var. *virginianum*--Wikipedia]

Jan Lane, Loudoun County Extension Master Gardener

Creating a Simple Formal Herb Garden for Your Backyard

Who doesn't love herbs in the garden--the smell, the flowers, and the ability to use both leaves and flowers in a multitude of ways? The different alliums in my garden are such a delight. I have several types of thyme creeping throughout my gravel walkway in and around the stepping stones. The flowers are stupendous and when you step on the thyme, the smell is delightful.

Although I don't have a separate garden for my herbs, they are scattered around my yard. I love the look of a formal herb garden.

Several years ago, I worked with a good friend installing container gardens and small gardens. One client asked for a small formal herb garden. The space was four feet square, with a birdbath in the center.

We used rosemary to edge the outside of the garden and to separate the other herbs. The rosemary was laid out from corner to corner, creating four triangle spaces for herbs. We also planted two rings around the birdbath.

All in all, this was a very simple design that anyone could easily create.



Here is a series of photos I took of the garden as we created it. The plants used in the triangles were thyme, sage, chives, and cilantro. We planted two types of basil around the birdbath.

The first photo shows the bed after it was made and we had added the soil. Herbs don't need rich soil. If the soil is too rich, you end up with spindly tasteless herbs that are not pretty and not good for cooking!

The next two photos show first how we placed the rosemary and then how the bed looked after the rosemary had been planted. You can use rope and hold it corner to corner to line out your pots.





On the next page I have listed several herbs that can be used in this garden design.

Keep in mind the requirements of the herbs you are using. Most herbs can handle and need full sun and don't need a lot of watering.

In the garden we created, the basil needed to be watched because it would need more water than the other herbs and could potentially get sunburned.



And here is the finished garden.



Depending on your needs, your garden could hold herbs beyond those used for cooking.

Herbs can be used for teas, first-aid, and skin and bath treatments.

Here are six basic herbs and two flowers to get you started: parsley, sage, rosemary, thyme, basil, and chives plus violets and calendula to pretty up your salads and soups!



Parsley can be used in anything from soups to sauces to vegetables because of its light scent and fresh taste. In Middle Eastern cuisine, parsley is one of the main ingredients in dishes such as tabbouleh, a salad using bulgur, mint, parsley, and vegetables, and is the main herb used in stuffing for grape leaves. If you are growing parsley for cooking, flat parsley is the way to go.

Sage is a hardy perennial with pretty, grayish-green leaves or, as shown in the picture, variegated leaves with purple accents. It grows spikes of spring flowers in different colors, including purple, blue, white, and pink. Sage has a very pungent fragrance and is used in stuffing, meats, and for smudging!



Rosemary is a woody perennial herb (depending on your zone and/or microclimate) with fragrant, evergreen, needle-like leaves and white, pink, purple, or blue flowers. Many varieties are available. Rosemary is used in chicken and lamb dishes. It was once used for medicinal purposes because it is a source of iron, calcium, and vitamin B-6! Some even drink it as a tea, but it can be a bit strong.

Thyme comes in so many varieties, I could write a whole article just on thyme. I have it planted in my front walk, and it gets stepped on, smelling wonderful, and keeps growing. If you are growing it for cooking, make sure you are buying a culinary variety and not an ornamental one. In late spring and through summer, these plants are covered in white, pink, or purple flowers.





Basil is most commonly used for cooking, such as in tomato sauce, pesto, or vinegar. But it also can be sprinkled over salads and sliced tomatoes, either whole or torn for the most flavor. Pinch out the flowers to keep growing leaves to use. Basil is an annual in Virginia and will need to be replanted each year. Protect basil from afternoon heat to avoid burning.

Chives, another multipurpose herb, are wonderful plants in the flower garden, although they will spread. Every part of the plant is edible. While most people cut up the leaves, the flowers add a great touch of color to soups and salads!



Calendula has a multitude of uses--medicinal, culinary, and ornamental and as a pest deterrent. Organic calendula flower petals are used in soups, salads, and stews. The leaves are used in decorating cakes, and the flowers can also be eaten. Have mosquitoes? Plant these bright flowers around patio or decks.

Violets are adorable garden gems that most gardeners know about. Some varieties have edible flowers and some don't, so do your homework! Just imagine how pretty these flowers will look when you top off your soups, salads, and stews. Or coat them in sugar and place atop your cupcakes and cakes!



Don't have room for a garden just for herbs? Try growing herbs in pots! Most herbs do very well in pots, and you can have them close by when you need them.

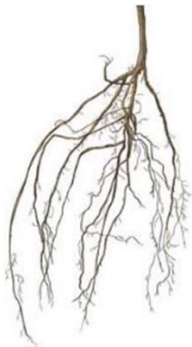
Becky Phillips, Loudoun County Extension Master Gardener

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. If your neighborhood has been planted with a certain type of tree, get something different. Monocultures (one type of plant) encourage pests and disease. Arlington County provides an excellent website for tree selection. <https://environment.arlingtonva.us/trees/plant-trees/recommended-trees/> Aim to plant a native tree and definitely avoid trees labelled as invasive.

Young trees come in three ways:



Bare root



Containerized



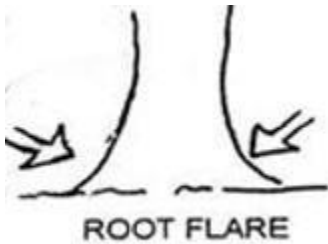
Balled and burlapped

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

Growing Roses in Virginia!

Roses are the ultimate flower! Almost everyone can point to a rose and say, "I know what that is!" But do you know how to grow and care for one?

Roses have come a long way and there are thousands of varieties to choose from. Color, fragrance, and size should not be the only determining factors when choosing roses.

We all love the English roses seen in beautiful photos, but realistically, the climate here in Northern Virginia makes growing roses sometimes difficult.

All roses need at least six hours of sun per day to really make them bloom. If you have a dark shady spot where you'd like to place roses, forget it! They need rich soil, loose and fertile, well draining, air all around it, and adequate fertilizer and water. It's best that you have a soil test done before planting.



Roses can be purchased bare root--available usually when it's time to plant them--in early spring before growth begins. Container grown roses are available throughout the season and should be planted in early March through November.

Choosing the type of rose is depends on the space available. Roses do not grow well when planted closely together--this only sets them up for failure from disease.

There are four types of blossoms to choose from: single, semidouble, double, and very double bloom. The main differences are the number of petals on each bloom.

Wild roses are the ancestors of all the cultivated roses. There are at least 200 varieties of wild roses that still exist today. Usually they bloom only once a season, are always single, and have only five petals. Now, there are numerous varieties of roses to choose from and each is distinct in growth habit, size of flower, fragrance, color, and frequency of bloom.

Once you have chosen the variety you would like, it's important to note that all plants require a regular program of pruning, feeding, watering, and spraying. Roses are prone to attacks by mildew and fungus and by pests such as aphids, mites, sawfly, and of course, Japanese beetles! There is also the season-long job of dead-heading--removing spent blooms for varieties that bloom more than once per season. Climbers, though not true climbers, need staking and tying to a supporting structure. Please don't let the maintenance required deter you from having roses!

Fertilizer and feeding--All roses have healthy appetites for optimal growth and bloom; they can be fed with granular or liquid fertilizers or spikes. Please follow the directions on the label for the specific fertilizer brand you purchase for roses. Some include a systemic pesticide if you should want that.

Pruning--Roses should be pruned in early spring as soon as new growth begins. Cut the stem at a 45-degree angle, ¼ inch above the new growth to an outward facing bud. Any spindly growth

should be removed, as well as any gray stems. If you see a hollow, brown core, this usually means this stem has a rose borer and should be cut further down until the hollow core is no longer visible. Remove any dead leaves that have dropped; they may carry disease from the previous year. Remove any crossing or rubbing canes. Cut the growth down to about one-third of the overall size of the rose. Use sharp pruners for small canes and loppers for canes more than ½ inch in diameter. After pruning each individual plant, dip your pruners in alcohol to prevent the spread of disease!

Water--When watering your roses, never water from above, but directly soak the soil below. This will discourage mildew and other diseases from forming on the leaves. They need deep watering--slow and gently--at least 1½ inches per week--by rain or you!

Mulch--This helps to conserve water, minimize weeds, and maintain soil temperature. Mulches of compost, bark, or leaves are best. Keep mulch away from the base stem several inches and mulch two to three inches deep.

Planting--Roses that climb need five to ten feet between plants. Large flowering bush roses need at least three to four feet between bushes. Everbloomers, such as Bonica, and English roses need at least two to three feet between plants. Compact and patio roses need two to four feet or more between plants.

With all this in mind, there are some roses that perform better in our warm and humid climate. I've offered a few suggestions depending on variety. This list is just a tiny sampling of suggested roses for our planting zone. Steer clear of the multiflora rose that you see growing out in the fields! These invasive roses carry a lethal virus that can quickly spread to your home-grown roses. The virus is spread by a tiny mite that can be carried by the wind and infect your own roses. If you see them close to home, destroy them. Do not compost them; bag or burn them! The virus is called Rose Rosette, there is no known cure, and it is always lethal. Sterilize your pruners after cutting them down!

Here is a partial list of recommended roses for our region:

Low Pest--Lady Banks Rose, Cabbage Rose, Rugosa Rose, Swamp Rose.

Hybrid Tea--Peace, Portrait, First Prize, Cayenne, Granada, Double Delight, Dublin.

Floribunda and Grandiflora--Pink Parfait, Betty Prior, Love, Queen Elizabeth, Rose Parade, Sonia, Razzle Dazzle, Angel Face, Gold Medal, Sonia.

Shrub--Carefree Wonder, All That Jazz.

Miniature--Rainbow's End, Little Artist, Gourmet Popcorn, Beauty Secret.

Climbing--America, Don Juan, Golden Showers, New Dawn, Fourth of July.

Get those catalogs out or start shopping for bareroot roses! I'm sure you can find at least one! Nothing beats the strong fragrance and beauty of a rose! Enjoy!

Terry Coulter, Loudoun County Extension Master Gardener

Itoh Hybrid (Intersectional) Peonies

Also called intersectional hybrids or simply Itoh peonies, this peony group has officially been designated the Itoh Hybrids Group by the American Peony Society in honor of the Japanese nurseryman, Toichi Itoh. In 1948, after a long quest by many different nurserymen and plant breeders, Dr. Itoh succeeded in crossing an herbaceous peony (*Paeonia lactiflora* 'Kakoden') with a tree peony (*Paeonia x lemoinei*), an extremely difficult task. Unfortunately, Dr. Itoh died before the first peonies from his crosses bloomed. Nine of his crosses had the characteristics he was seeking, and his widow gave permission to Louis Smirnow, an American horticulturist, to import and patent four of them.



"Garden Treasure," Photo by Prudence Wiedemann, courtesy Long Valley Peonies, www.longvalleypeonies.com.

These four peonies became available to the American public in the 1970s and were an immediate hit--at least among those who could afford them. Because of their extensive woody root systems, Itoh hybrids are very difficult to divide, and divisions take years to reach maturity. As a result, until recent years they have been extremely expensive. Thanks to propagation advances, Itoh peonies have dropped significantly in price and most now range from \$40 to \$150.

More than 100 cultivars now exist, only some of which are available. Most of them were bred by a handful of breeders in the United States, most prominent among them: Roger Anderson, Don Hollingsworth, Donald Smith, Irene Tolomeo, and William Sidel and Serge Fafard of Canada.

Simply put, the Itoh peonies are magnificent. The dome-shaped plants can reach three feet tall and up to four feet wide. Their papery, single, semidouble, or double flowers resemble those of tree peonies as do their dark green leaves. The leaves, however, are much more abundant than those of tree peonies, resembling their herbaceous parent in this respect. As a group, they have several advantages over either of their parents:

- They are extremely vigorous and winter hardy.
- They have strong stems and, unlike many herbaceous peonies, don't need staking.
- The foliage remains healthy and attractive through the summer (unlike that of many herbaceous peonies that tend to look a bit ragged and tired by August) and can be highly colorful in the fall.
- Once established (which can take three to four years), they bloom prolifically; a well-grown, mature plant can have as many as 50 flowers in a season.
- They expand the flower color range of herbaceous peonies to now include yellows, orange tones, lavenders, and other previously unavailable colors.
- They introduce flares (contrasting colors at the base of the petals) to herbaceous peonies. Previously flares were seen only in tree peonies.
- The flowers can expand up to seven and one half inches in some varieties, are held well above the foliage by their strong stems, aren't beaten down by rain and wind, and are excellent for cutting.
- They aren't as attractive to ants as are herbaceous peonies.



"Morning Lilac." Photo courtesy of Planteck, www.planteck.com.

- They appear to be resistant to the main disease that attacks peonies, *Botrytis paeonia*.

Culture

Itoh peonies are grown exactly like herbaceous peonies with only a few exceptions, so a review of the cultural practices and requirements for both herbaceous and Itoh peonies, with differences noted, is useful.

Purchasing: For the best selection, order bare root peonies in the spring or summer from reputable growers for fall delivery. (Peonies make most of their root growth in the fall, which is the ideal time to plant them, just before root growth starts.) The American Peony Society has a list of suppliers on its website at <http://www.americanpeonysociety.org/links/buy-peonies> as does the Heartland Peony Society at <http://www.peonies.org/sources.html>. You may find Itoh peonies at nurseries in the spring, but it's not a good idea to buy them. Spring is the worst time to plant peonies, and they don't summer over very well in pots.



"Belle Toulousaine." Photo courtesy of Planteck. www.planteck.com.

Siting: Itohs, like other peonies, prefer a well-drained site with good air circulation. They need lots of light: a minimum of six hours of direct sun daily is required; eight hours is

better. Pick a site where the plant can remain permanently; Itohs have extensive woody root systems and are extremely difficult to move. **Note to those with black walnut trees:** Many peonies, depending on cultivar, are sensitive to juglone from black walnut trees; I lost several before I caught on to the problem and moved the struggling survivors to a new bed where they are thriving. To be on the safe side, don't plant any peony within 50 feet of the trunk of a small black walnut or within 80 feet of the trunk of a large black walnut; more distance is always better--remember, the tree will grow!

Soil: Itoh peonies, like other peonies, are happy in fertile, well-drained garden soil. Generally, if you can grow vegetables, your soil is suitable for Itohs. Like other peonies, they prefer a pH of 6.5 to 7.0 although they are tolerant of a wider range.

Planting: Plant the roots of Itohs a little deeper than you would herbaceous peonies. The first eye on the stem should be at or just above soil level. Eyes on the crown should be below the soil by three to four inches. Don't plant Itohs too close together; space them at least three feet (preferably four feet) apart. Not only does crowding prevent each plant from showing off its individual beauty, as with most plants, crowding reduces air circulation around the plants and can contribute to the spread of diseases.

Watering: Like herbaceous peonies, established Itoh peonies are drought tolerant. They will go dormant during severe droughts and the next year's bloom may not be as abundant as usual, but they will survive. One inch of rainfall a week is ideal. Without that inch, supplemental watering is useful, but not essential to the ultimate survival of mature plants. During the first two or three years, however, supplemental watering *is* recommended during dry periods.

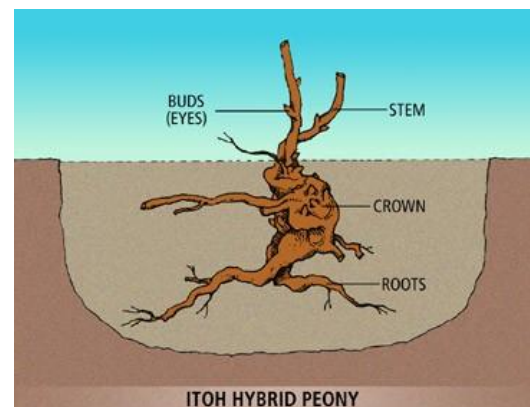


Photo courtesy of Pivoines Capano.

Fertilizing: Planted in properly prepared soil, peonies shouldn't need fertilizing for several years. As long as the plants look healthy and bloom well, it's not necessary. When they do need fertilizing, use a low nitrogen fertilizer (a good bulb fertilizer or 5-10-10 or 10-20-20 will do). Apply lightly, following package directions (but never more than 1/4 cup, regardless of what the package says) around each peony's drip line and up to about eight inches from (but not next to) the crown, gently scratch it into the soil, and water in. You can apply all the fertilizer at once, in the spring. Or you can divide the application, giving one half dose in the spring and the other one half dose around August. Both methods work just fine.

Cutting: Itoh peonies make great cut flowers. As with other garden flowers, peonies should be cut in the morning, before the heat of the day. Leave at least three sets of leaves on the stem, and don't cut more than 50 percent of the flowers on a mature plant. Cut in the soft bud state, when the bud feels like a marshmallow, or when the first petal moves away from the bud. (If cut too early, when the bud is firm, they may not open; cut later, their vase life will be shortened.) The buds will open in 24 hours in the vase. Strip off any leaves that will be below the water surface and place immediately in cool water. Recut the stems as you arrange the flowers. Adding floral preservatives will extend the life of the arrangement, as will changing the water each day.



"First Arrival." Photo courtesy of Song Sparrow Farm and Nursery.
www.songsparrow.com

Peonies are unique in that you can also cut them in advance, refrigerate the blooms, and arrange them up to three weeks later.

Cut as above, strip off the leaves, inspect the buds for any fungus or mold that will cause problems in storage, wrap each bud in a thin layer of newspaper

or paper towels, place dry in a two-gallon plastic bag, seal tightly, and lay flat on a refrigerator shelf. When ready to use, remove from the refrigerator, recut the stems, and place in a bucket of lukewarm water. They'll open slowly over the next 24 hours. It's that easy. (I've also done this on a dark, damp basement floor, in which case sealing in plastic isn't necessary since they won't be exposed to the refrigerator's self-defrost.

For more information about cutting, drying, showing, and holding peonies in cold storage, see the section on [Planting/Care/Drying/Cutting/Storing](#) by various authors at the Canadian Peony Society website, <https://peony.ca/articlesfaq/>.



"Bartzella." Photo by F. D. Richards.
<https://flic.kr/p/tYGqWx>.

Fall care: Cut the soft upper stems back in the fall to about six inches above the ground. You will see eyes on the woody lower stems; cut just above these eyes; the next spring the eyes will be flowers. Remove all leaves from the garden. During the plant's first winter, mulch lightly with wheat or oat straw after the ground has frozen, then in the spring gently pull the mulch off (I use my fingers, not a gardening tool), being careful not to damage any emerging stems.

Deadheading: Most Itoh peonies are sterile and won't set seeds. They may, however, develop empty seed pods. You can deadhead or not, depending on whether or not you like the appearance of the pods. Cut just above the first leaf if you do so.

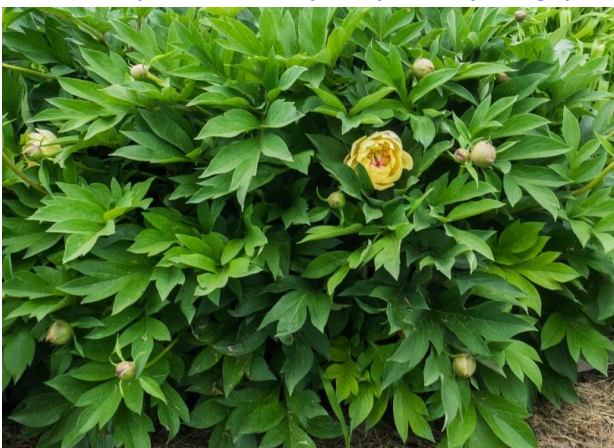
Weeding: A light mulch, for example about two inches of pine bark mulch, goes a long way in preventing weeds but be careful not to cover the crown. When weeding does become necessary (and eventually it will), weed the area immediately around each crown by hand to prevent damage from weeding tools.

Pests and diseases: Peonies in general aren't susceptible to attack by many diseases or pests. Unlike herbaceous peonies, Itoh peonies appear to be resistant to the primary peony disease problem, *Botrytis paeonia*. The primary insects attracted to peonies are ants, but Itoh peonies appear to be resistant to them as well. And like other peonies, they are not attractive to deer! If a problem does arise, there are several online resources available to help. While all pertain specifically to herbaceous peonies, it's possible your problem will be discussed, since all Itoh peonies do have one herbaceous parent. Sources to check are as follows:



"Cora Louise." Photo courtesy of Song Sparrow Farm and Nursery.
www.songsparrow.com.

- The Missouri Botanical Garden has a guide, with photographs, of the most common peony diseases and pests at <http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/visual-guides/peony-problems.aspx>.
- The American Peony Society has a photographic guide of common peony problems at <https://americanpeonysociety.org/learn/diseases-and-pests/> with links to other pages
- The Canadian Peony Society also has a good article about peony diseases at <http://canadianpeonysociety.blogspot.com/p/pests-and-disease.html>.



"Border Charm," just starting to bloom. Notice the lush foliage. Photo by F. D. Richards. <https://flic.kr/p/V8ggKx>.

- And, finally, Penn State has a guide (no photographs) to peony diseases at <https://extension.psu.edu/peony-diseases>.
- If you're bitten by the "peony bug" and want to know more about them, sources of information about Itoh, herbaceous, and tree peonies include the American Peony Society at <https://americanpeonysociety.org/>, the Heartland Peony Society at <http://www.peonies.org/index.shtml>, and the Canadian Peony Society at <http://canadianpeonysociety.blogspot.com/>.

Lina Burton, Loudoun County Extension Master Gardener

The Virginia Flower & Garden Expo

I had the opportunity to attend the Virginia Flower & Garden Expo this past January with my daughter Lauren and my grandson. The expo is a three-day event, Friday through Sunday, held January 24 to 26 at the Virginia Beach Convention Center.

The expo center was a bustling place with 102 commercial exhibitors and vendors. Additionally, there were 19 educational booths and seven landscape displays. In total there were 125 booths, which made for quite a show.

The educational area included booths for the Norfolk Botanical Gardens, the Virginia Society of Landscape Designers, the Butterfly Society, the Beekeepers Guild of Southwestern Virginia, the Virginia Native Plant Society, and the Planting Shade Organization to name a few. Additionally the Virginia Beach Master Gardeners, the Norfolk Master Gardeners, the Chesapeake Master Gardeners, and the Virginia Cooperative Extension had a large presence. The master gardeners had attractive displays for the various teams within the organization such as water stewards and restoration, tree stewards, Neighborhood Park Project, Apple Tree project, Nectar Annuals, Plants, and Nectar Perennials. They even had a native plant sale with lots of handouts. The Butterfly Society had a very attractive display of dried, native butterflies and moths and readily shared information on native host plants and trees and habitat.

As mentioned, many commercial vendors displayed a wide variety of products, plants, tools, and hardscapes. My grandson especially enjoyed sitting on the riding mowers, which the vendor did not mind. One vendor was giving away live budding pussy willow shoots for rooting. There was a book vendor with many books available for perusing which is nice when deciding whether to purchase. Another vendor, DIY Gardeners, had a nice offering of native plants for sale with growing information. After my daughter and grandson visited the chicken coop (yes, with live chickens), they headed to the large Children's Activity and Mini-Landscape area. This area contained numerous activities such as a pinecone roll, creature creations, sensory boards and bins, backyard games, and face painting. This area was well laid out and provided others that may have attended the show in your group the opportunity to visit other booths while the children (with an adult) stayed occupied.

During the three-day event, there were scheduled presentations at the Garden Stage and Demo Areas. Once again the master gardeners had an important presence with many presentations and demos such as: Make and Take Hypertufa, Seed Starting Made Easy, How to Divide Your Perennials, Succulent Planter Make and Take, Seed Swap, and Building Rain Barrels. There was also a talk about the master gardener organization and activities. Other experts offered presentations on topics such as owls, residential landscapes, peony questions, the art and science of saving seeds, and many more. Unfortunately, I was not able to attend as many presentations as I would have liked.

The Virginia Beach area is in USDA Hardiness Zone 8a. It was interesting to see the different native plant flora growing a short distance from the Washington, D.C. metropolitan area (hardiness zones 6a and 6b).

After spending several hours at the expo, we were running low on time and energy. As we left, we were already making plans to attend next year!

Scott Wolz, Loudoun County Extension Master Gardener

Vultures

If you live in Leesburg, you are accustomed to seeing turkey vultures and black vultures throughout the town and along roadsides eating deer that have been struck by cars. They are



doing an important job. Avian scavengers play a vital role in healthy environments worldwide. The vultures eat dead animals that would otherwise rot. Rotting meat creates bad odors and spreads disease.

Vultures are mainly scavengers, getting most of their nutrients from animals already dead. They eat the remains of a prey animal after a predator has finished its meal. They also eat animals that have died of sickness or old age. They are not picky eaters; they will eat on any dead animal they can find. They will even eat garbage and animal feces. Certain vulture

All photos in the article by Normalee Martin.

species will attack live animals-- very weak, young, sick, or elderly animals. Other species may attack

small animals such as lizards, insects, and even other birds. A carcass that has been dead for too long will be left alone. Vultures enjoy fresh meat.

Turkey vultures are scavengers and sanitarians; they help recycle the bodies of dead animals but also sanitize the area for us. The corrosive enzymes in their stomachs and sophisticated immune systems can kill a number of deadly organisms, including salmonella and bacteria that cause anthrax, hog cholera, and botulinal toxins. At present, the turkey vulture is the only animal in the world known to have this ability.

There is evidence from fossils that prehistoric vultures first appeared on Earth 40 to 50 million years ago. They fed off the prehistoric mammals that existed then such as the mastodon and the woolly mammoth.

Vultures were an important part of the folklore and beliefs of many ancient cultures. Their images appear in art and sculptures. The ancient Egyptians worshipped vultures as gods. The Egyptians felt the birds were so important that two of the goddesses, Mut and Nekhbet, were depicted as having vulture heads. Nekhbet was considered the guardian of mothers and children. The image of Nekhbet was in a large gold necklace found on the famous boy pharaoh Tutankhamun. The solid gold mask of Tutankhamun (King Tut) that covered his face had the head of a vulture depicted next to that of a cobra. Images of the vulture goddesses have been found on many Egyptian coffins and in the artwork on the walls of tombs.

Ancient Incas believed the vultures were messengers of the gods. Mayan kings in Central America wore jewelry shaped like vultures, and Haida Indians in British Columbia carved vultures on their totem poles. In India, it was believed vultures guarded the gates to the underworld.

Vultures throughout the ages have been associated with magical powers, perhaps because of their natural behavior of dealing with death daily without coming to harm.

Today, vultures make their home on every continent except Antarctica. Worldwide, there are only 22 kinds, or species, of vultures. The United States has only three kinds of vultures: the turkey vulture, the American black vulture, and the California condor. Vultures are divided into two groups, Old World and New World, but both are known as raptors or birds of prey.

Turkey vultures are the most common kind of New World vultures. New and Old World vultures look alike and behave in the same way but do not belong to the same scientific family. New World vultures are cousins of long-legged storks. Old World vultures are related to hawks and eagles.

Vultures have excellent eyesight and a strong sense of smell. They depend on their vision and sense of smell to locate food as they fly high above the ground, as much as 15,000 feet above ground, which is higher than a small airplane might fly. It is believed that a vulture might even be able to spot a three-foot piece of carrion as far as four miles away. They search for food during the daytime and can often be seen flying in circles or sitting in tall trees. They often group together to tear meat apart and will eat until full. Vultures can eat 20 percent of their body weight in one sitting. A group of vultures can strip a dead animal down to a skeleton in less than an hour.



Vultures hatch from eggs; the parents take turns keeping the eggs warm. The chicks hatch in 30 to 70 days. They are not nest builders and will often lay their eggs in protected places such as hollow logs or holes in large trees. Black vultures and turkey vultures usually lay two eggs each nesting season.

Black vultures are two feet tall with gray heads and black feathers with a purplish shine. They hunt in open country but live and roost in the wooded areas of the southeastern United States. Hundreds of black vultures sometimes roost together in a town. A turkey vulture--with its dark body and red head--resembles a wild turkey only smaller. During the spring and summer, turkey vultures inhabit most of the United States.

Turkey vultures have wrinkly red heads that make them easily recognizable. Most have no feathers on their heads or necks. This lack of feathers helps the bird from becoming overheated, indicates its mood to other vultures, and most importantly, keeps the vulture clean. Their bald heads also reduce the risk of picking up parasites, which would make the animal sick. When eating on carrion, it is easier to clean off dried blood and rotting bits of flesh from its bald head.

Vultures' hooked beaks are made of keratin, as are human fingernails. They use their beaks as knives to cut into meat. They have slender toes, only slightly curved talons and weak feet. These features make it very difficult for the vulture to kill and carry off prey, as other raptors do. They lack organs in their throats that produce sound so they can't call one another. They can only hiss and grunt. They make these noises by blowing air through their nostrils. They urinate and/or defecate on their legs to cool down in hot weather. Despite these distasteful habits, vultures are clean birds.



To protect itself when feeling threatened, a vulture will stomp its feet to send a message to stay away. If it still feels threatened, it will projectile vomit at the enemy. A vulture can expel vomit six feet. The vomit has a high acid content and is extremely smelly. Most animals have learned it is best to just leave a vulture alone.

Vultures have few predators and can live for 25 years in the wild. They can go for days without eating. When it finally finds food, a vulture sometimes eats so much that it must wait several hours before being able to fly.

Vultures play an important part in the cycle of life. They are the natural garbage removal experts of the Earth. Dead animals attract disease-carrying insects. If vultures did not eat this carrion, disease would spread. Destruction of their natural habitat is the worst problem facing vultures. They are protected by the Migratory Bird Treaty, and it is illegal to kill them in North America. A large

majority of species of vultures are endangered. Like most endangered species, their greatest enemies are humans.

So the next time you see vultures on the roadside cleaning a deer carcass, note the service they are providing and appreciate this unique bird.

Heather Swanson, Loudoun County Extension Master Gardener

Native Bees

Bees pollinate one third of our food supply. Historically, we have relied primarily on the troubled honeybee for this job. As science works to help this stressed bee, we can increase the population of gentle-natured solitary bees like mason and leafcutter bees. These amazing pollinators are a great supplement to the honeybee and have proven to increase various crop yields.

Protecting our food supply with more diverse bee pollinators is an easy thing we can all take part in. We can focus on increasing the mason bee population for spring fruit, nuts, and plant pollination. That's one part of the solution to our food pollination challenges.

Bees by Season

Spring pollinators are blue orchard mason bees. Females live about six weeks (males live two weeks) and are one of the first bees that fly in spring. They only need mid 50s degrees F to emerge and begin nesting. A spring mason bee pollinates 12 pounds of cherries—work that it takes 60 honeybees to accomplish. You might mistake the blue orchard bee for a fly due to its size, coloring, and furry body.



Honeybee

Mason bee

Photos from Crown Bees--Native Bee Guide.

The female will nest in existing holes, occupying up to four nesting tubes and laying up to 24 eggs. She gathers a pea-sized mound of pollen, lays an egg and creates a chamber within the tube, then seals the tube with mud. There can be up to eight egg chambers. By the end of summer, the new eggs feed off the pollen that they were laid on. The larvae spin cocoons in which they hibernate during the winter months as pupae.



Leafcutter bee.

Photo from Crown Bees--Native Bee Guide.

The summer alfalfa leafcutter bee is the perfect pollinator for summer vegetables or other flowering plants. It flies best when temperatures are 70° and higher. About two thirds the size of a honeybee, it is black with yellow stripes on its abdomen.

The leafcutter bee gets its name from the way it collects nesting material. She will cut a semicircle from a plant leaf (nonfibrous) about $\frac{3}{4}$ inch in diameter. At the nest, the cuttings are cemented together with leaf liquid and bee saliva to form cocoons for the eggs. The cocoons develop into bees the next summer.

Here is a picture of my Air Bee n Bee. I put cardboard nesting tubes among sticks, branches, and bark, plus one set of wooden trays and one house shaped like a tube that has nesting tubes in it. I keep a large ceramic saucer filled with stones and water for the bees. During the spring, I create a mud hole for the mason bees' nest material.

Native bees are gentle natured and are vital pollinators for our fruits and vegetables. Commercial growers have relied primarily on the honeybee. This non-native social bee is in trouble. The overlooked solitary native bee is an excellent supplement and is easy to raise in your back yard. It doesn't have to be a bee hotel,

but a single mason bee house is a help for our environment.

There are 4,000 species of native bees in the United States. A lot of people do not realize that



Photo by Normalee Martin.

there were no honeybees in America before European settlers brought hives from Europe. Native bees have been pollinating this continent's flowering plants since long before the arrival of honeybees. They continue to do the major share of pollination even with the altered landscape, especially with native plants.

The honeybee is remarkable, but it does a poor job compared to native bees when it comes to pollinating native plants such as pumpkins, cherries, blackberries, and cranberries. Honeybees do not know how to pollinate tomato, eggplant, or other members of the solanaceae family.

There are squash bees that you can sometimes find sleeping in squash blossoms, and they sometimes make their nests under the squash plants. They also pollinate other curcubits.

Bumblebees, carpenter bees, and blueberry bees are native bees. Bumblebees are used in commercial greenhouses where tomatoes are grown year round. All that is needed is a queen, a box for the nest, and a supply of sugar water because tomatoes supply a lot of pollen but no nectar.

But native bees need to be acknowledged for the important services they provide, and gardeners have scores of trees, flowers, shrubs, and vegetables to choose from that will help our pollinators.

Normalee Martin, Loudoun County Extension Master Gardener

Various websites provide good information on raising native bees such as mason bees. This is a good place to start: <https://crownbees.com/learn-about-native-bees-all-topics>.

What Is a Pollinator?

In Doug Tallamy's new book *Nature's Best Hope*, he dashes some of our long-held notions about pollinators. This selection comes from page 158 in that book:

It is logical to assume that all animals that go to flowers for pollen and/or nectar actually pollinate those flowers. But the opposite is true, most animals that go to flowers do not end up pollinating the flowers, even if they successfully remove pollen and nectar from those flowers. It is more accurate to call these animals flower visitors and reserve the term "pollinator" for animals that successfully transfer pollen from male stamens to female pistals of flowers. Butterflies, for example, get lots of credit for being great pollinators because they spend so much time nectaring at flowers. But this credit is not deserved; most butterflies take from flowers without giving back much in return. Butterflies do not have a body shape conducive to transferring pollen for most flowers. Even bees that have specialized adaptations for pollinating a particular flower genus may visit other flower genera without transferring any pollen. Because pollen and nectar are costly for flowers to produce, many flower genera have developed elaborate shapes, such as extremely long corolla tubes, very narrow corollas, or closed petals, that make access to their nectar difficult. The evolutionary idea in these cases is preventing generalist pollinators from taking the pollen and allowing only specialist pollinators access to the pollen because they are more likely to deliver it to another flower of the same species. Specialized interactions between flowers and their pollinators are largely responsible for the myriad sizes and shapes of flowers and bees in nature.

This explains why the hundreds of different native bees are so important. Most of these bees are specialists and pollinate a particular plant. Without the specialist bee, the plant can't survive.

Virginia Cooperative Extension, Loudoun County In the Schools

Virginia Cooperative Extension (VCE) Loudoun is developing efforts to bring a visiting expert to the classroom to support teachers and the Standards of Learning (SOL) curriculum relating to environmental stewardship and food literacy. Where does your food come from? Working with Loudoun Soil & Water District, INOVA, and Loudoun County Public Schools, volunteers will deliver class lessons using the EnviroScape model, a Soils Toolkit, a Plant Toolkit, and INOVA programs.

Watershed

EnviroScape® Watershed/Nonpoint Source model shows pollution from nonpoint sources--such as residential areas, forestry, transportation, recreation, agriculture, construction, storm drains--and point sources such as industry. Pollution and runoff are visually apparent when rain carries soil (cocoa), chemicals (colored drink mixes), and oil (cocoa and water mixture) through the watershed to a pond, lake, river, or ocean. It also shows prevention--best management practices include felt buffer strips as vegetation, clay to create berms, and other methods to show conservation and water pollution prevention measures at work.

The Soils Toolkit

Prepared by the Loudoun VCE Master Gardeners with activities from Loudoun Soil & Water District, the Soils Toolkit supports education aligned with SOLs dealing with soil. The student will investigate and understand the major components of soil, its origin, and its importance to plants and animals including humans.

The Plant Toolkit

There are several Plant Toolkits supporting SOL curriculum relating to characteristics and functions of different plant parts, adaptations and biomes of plants, and an understanding of where and how food originates, and therefore, understanding healthful eating.

Nutrition

VCE Loudoun is partnering with INOVA to deliver the INOVA Healthy Plate Club classroom lessons. Educators teach students through age-appropriate games and activities about eating right with the five food groups, detecting sugar in drinks, and eating a rainbow of colors and healthful snacks.

4H After-School Program: Farmyard Fun!

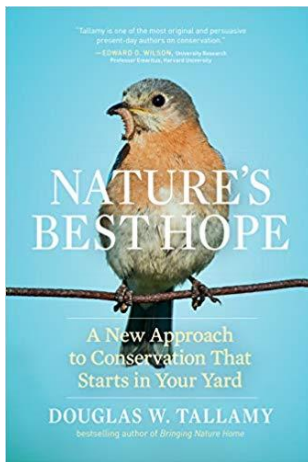
Think Outside: Farmyard Fun! was created by Loudoun County 4-H in collaboration with the Loudoun County Department of Economic Development and the Hunt District PTA to help educate elementary-age youth on local agriculture.

Once a class is registered, the teacher or volunteer is granted access to six different lessons to use. Currently the lessons are: Beef, Poultry, Alpaca, Pig, Goat, and Sheep. Also included is a list of local farmers you can invite to your school. Many of these farmers sell their own products (eggs, wool, meat, etc.) and can answer additional questions that you may have.

Contact Barbara Bailey at bbailey@vt.edu for more information on the programs and/or volunteering opportunities.

Barbara Bailey, Community Engagement Coordinator

Nature's Best Hope: A New Approach to Conservation That Starts in Your Yard



Doug Tallamy has produced an excellent second book that provides a hopeful and action-based message for all property owners. This book is in no way a repeat of *Bringing Nature Home*. In *Nature's Best Hope*, Tallamy provides a blueprint for homeowners everywhere to use to turn their yards into conservation corridors that provide wildlife habitats. He calls this the homegrown national park.

Tallamy is the consummate scientist and all his recommendations are fact based. However, his book reads like one of his presentations--interesting, easy to follow, pleasurable, and so educational.

He ends the book with ten steps that we each **MUST** take:

1. Shrink your lawn--it's not doing its fair share to support species. Every square foot dedicated to lawn is degrading the ecosystem. Try to reduce your lawn by half.
2. Remove invasive species--remove those introduced plants that tend to spread. Invasive species are ecological tumors that limit the ecosystem's ability to function.
3. Plant keystone genera--these can do the heavy lifting to support more species. Throughout most of the United States, native oaks, cherries, willows, birches, cottonwoods, and elms are the top woody producers, while native goldenrods, asters, and sunflowers lead the herbaceous pack. Reference the National Wildlife Federation's Native Plant Finder website for the best plants for each specific area.
4. Be generous with your plantings--increase the abundance and diversity of your plantings.
5. Plant for specialist pollinators--both the specialists and generalist insects can then be supported. Provide a wide variety of plants including native willows and blueberries.
6. Network with neighbors--two yards are bigger than one.
7. Build a conservative landscape--think ecologically in all you do to reduce the carnage we mindlessly inflict on wildlife.
8. Create caterpillar pupation sites under your trees--caterpillars need a place to live in the winter too. More than 90 percent of caterpillars pupate on the ground in the leaf layer under shrubs; retain leaves, some deadwood, and rocks to provide safe harbor for caterpillars.
9. Do not spray or fertilize--most native plants are adapted to the low nitrogen soils and don't need fertilization. Highly fertilized soils encourage invasive non-native plants. Mosquito sprays indiscriminately kill all insects. Instead, create a mosquito trap with water and straw and add a mosquito dunk to kill all the mosquito larvae.
10. Educate your neighbors--get everyone involved.

This book is so dense with useful information and beautiful photos. Buy it! Read it!

Carol Ivory, Loudoun County Extension Master Gardener