Trumpet Vine

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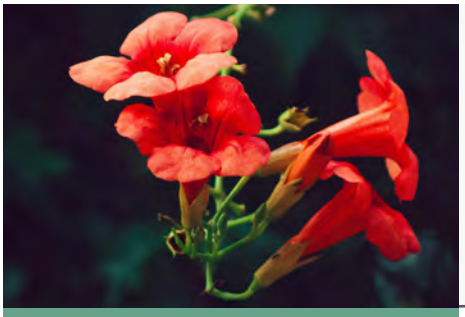

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Knowledge for the Community from Loudoun County Extension Master Gardeners

Loudoun County Extension Master Gardener Lecture Series

- Free and open to the public
- 7:00 p.m.
- Hosted by Loudoun County Public Library
- Planned by Loudoun County Master Gardeners

Upcoming Virtual Lectures

- **April 3: Managing Pests while Protecting Pollinators** by Emily May, Pollinator Conservation Specialist with the Xerces Society's Pesticide Program
- **May 1: Regenerative Gardening** by Dr. Sara Via, Professor & Climate Extension Specialist, University of Maryland
- **June 5: A Passion for Conifers** by Christie Dustman, Certified Landscape Designer, MCH

Check the event calendar on our **website** for virtual lecture links and updates on topics and speakers.

Also, visit us on Facebook: **VCE Loudoun Master Gardeners**.

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Message From the Editor

Resources for Your Garden Planning

Carol Ivory, Loudoun County Extension Master Gardener

As you plan your gardens and the overall use of your property, it is helpful to have resources that are dynamic, reflecting changes in climate science, horticulture, and sustainability. We all have our favorite books, but it's good to cultivate other types of resources. Here are a few suggestions:

Mt. Cuba Center is a renowned nonprofit botanic garden committed to the conservation of native plants and their habitats. It is located in Hockessin, Delaware, a 3-hour, 150-mile drive from Leesburg, Virginia. Formerly a DuPont property, the center manages more than 1,000 acres. The cultivated areas include the mansion, formal gardens, trails, ponds, meadows, and woods. Every plant within the cultivated area is a local native plant. Take a virtual tour on the website if you can't visit the garden.

Mt. Cuba Center conducts research on the performance of the straight species and various cultivars of popular native plants. So far, they have evaluated 14 different species and, in some cases, up to 83 cultivars to determine which perform best in their gardens including counts of the number of pollinators visiting each cultivar, susceptibility to diseases, etc. To see the field trials and the reports on each, click **here**. This is invaluable if you are considering Verona, Carex Echinacea, Heuchera, and other popular native plants for your garden.

Mt. Cuba also offers in-person classes, online classes, on-demand classes, multiclass courses, and certificate programs.

Various communities and societies are valuable sources of up-to-date information and collaboration on growing in your area.

The **Loudoun Wildlife Conservancy** offers a wide variety of educational activities, regular publications, activities, and resources. Its **Wildlife Sanctuary Program** is a service you may want to use on your own property.

The **Virginia Native Plant Society** and its local chapters offer educational newsletters, presentations, field trips, and opportunities to ask your landscaping questions. See their Facebook page as well.

If you have favorite ornamental plants, there is a society and local chapter for every plant that will grow in this area. Simply search on American (insert name of plant, e.g., iris, hosta, rose, etc.) Society and then find your local society. They will be thrilled to get a new member.

Finally, our local native plant nurseries are great sources of information. They are happy to offer advice. Catch them at a local plant sale. In Leesburg, it's on April 5 at **Morven Park**. For other area plant sales, see this **list**.

Grow Salads Year-Round in a DIY Mini-Hoop House

Freyja Bergthorson, Loudoun County Extension Master Gardener

Yes, Virginia, you can grow some green vegetables year-round with a few inexpensive materials. This article outlines over 15 years of experiments with three different DIY techniques in Northern Virginia.

When I first started growing vegetables, I wanted to grow greens for as much of the year as possible. I purchased a small plastic greenhouse from a local grocery store and had some success extending the season by starting seeds and hardening off seedlings in the greenhouse. This did extend my growing season, but did not provide greens for the table during the winter months.

I did some research online and learned about floating row covers. Some of my favorite seed catalogues sold different types of row covers, but they were too expensive, so I tried building my own.

My first and least expensive attempt was to drape heavy plastic sheeting over tomato cages which were laid on their sides. This allowed me to grow plenty of salad greens, around the cages, but it was difficult to keep the plastic from coming into contact with the plants, especially after rain or a snowfall, both of which pretty much collapsed all but the area directly under the cages.

The next year I combed the hardware store for some inexpensive options. I finally opted for masonry ladders, which are bonded wire metal supports used to strengthen concrete block structures. Mine were about 8 inches wide and 10 feet long. I bent them into arches, sunk the ends into the soil, covered them with heavy plastic sheeting, and secured the edges with stones and pavers. These lasted several years, but with time the metal begins to break down and snap, resulting in tears and punctures in the plastic. I was able to use the supports for squash vines in the growing season, which was a bonus as they did not present a summer storage problem.

My more recent efforts have involved PVC pipes and one-foot-long rebar. The pipes can easily be formed into arches. I drove a few inches of the rebar into the ground on each side of the raised bed, then inserted it into the opening of each end of the PVC pipe. This creates a very stable arch with smooth edges that do not snag or pierce the plastic sheeting. Placing these 2-4 feet apart provides a very stable frame for plastic sheeting then secured with pavers or stones. If the sheeting is pulled tightly, there is little to no sagging or collapsing onto the plants during rain or snowstorms.

Lettuce in tunnel
Photo courtesy of Freyja Bergthorson

I will stick with the PVC pipes and rebar as this has been the most successful and durable option. They look tidy in the garden and don't take up too much space during the regular growing season. They can also be used as row covers with mesh as a form of insect control and can successfully protect squash plants from squash beetles and vine borers.

A key to success is keeping the plastic from contacting the plants. During cold periods contact can smother

Lettuce, radishes, and herbs
Photo courtesy of Freyja Bergthorson

and freeze plants, during warmer periods it can smother and overheat them.

Once the weather starts to warm, the hoop houses make an excellent place to harden off seedlings started indoors before planting out.

Northern Virginia weather fluctuates greatly on some days, so remembering to open the hoop houses in order to provide ventilation or secure the covering on colder days is crucial to success.

Not all vegetables will do well over the winter, so I stick to durable cold weather loving crops that can survive a light frost such as kales, chards, beets, radishes, parsley, cold weather lettuces, and green and raspberry sorrel.

Greens from garden
Photo courtesy of Freyja Bergthorson

Although my hoop houses are small enough to be ignored by the local homeowners' association, it is possible to build a full-sized house in a similar manner. This article from the Lincoln University Extension office includes detailed plans for those wanting to really sink their teeth into building an 18-by-40 foot hoop house also using PVC pipes.

Sources

- Floating row cover. (n.d.). Wisconsin Horticulture. https://hort.extension.wisc.edu/articles/floating-row-cover/
- Rainwater, J., FOW, Lincoln University Cooperative Extension, & Innovative Small Farmers' Outreach Program. (2016). How to build a hoop house. https://www.lincolnu.edu/_files/publications/how-to-build-a-hoop-house-guide-sheet-gs9a2011.pdf

Cat and tunnel
Photo courtesy of Freyja Bergthorson

The Miracle of our Spring Ephemerals

Carol Ivory, Loudoun County Extension Master Gardener

"Ephemeral" or fleeting, short lived, and transitory describes a certain set of native wildflowers that bloom in the early spring and then totally disappear no later than mid-summer — most much earlier. These plants complete their annual growth and reproductive cycle within a window of opportunity that presents unique growing conditions in the early spring in our area, between March and May. This window of opportunity begins to open when the days get longer and the sun is a bit warmer despite the cold air. The soil is very moist from rain and snow melt, and it is nutritious due to all the decomposing leaves on the forest floor.

One of the earliest spring ephemerals in our Northern Virginia hardwood forests is the harbinger of spring (*Erigenia bulbosa*) also known as pepper and salt. It's not well known because it's so tiny and often is found buried in leaves deep in a forest. I found these on March 11, 2011, at Balls Bluff in Leesburg. I was going down a steep slope and slipped, landing in deep leaves. The flowers caught my eye as I sat in the oak leaves. The flowers appear first before the leaves, and solitary native bees pollinate them. Now that I knew where they were, I went back year after year, dug through the leaves, and always found them.

Erigenia bulbosa

While all the spring ephemerals are small and appear to be very delicate, they are, in fact, tough. They endure late snows and freezing temperatures, wind, and rain, and they have very few pollinators. They emerge from the soil ready to bloom. Often the flower is visible before any foliage. There's no time to waste! The window of opportunity starts to close in May when the tree foliage emerges. Tree leaves dramatically reduce the amount of sunlight reaching the forest floor and also initiate the absorption of water from the soil by the trees, greatly decreasing the moisture available to the spring wildflowers. In March, 50 percent of the sunlight is available to spring wildflowers, and by May, only 10 percent of the sunlight reaches them. Spring ephemerals are shade intolerant and go dormant after the tree canopy emerges. They have only this short period of time to reproduce and replenish their energy supplies before they fade away until the next spring.

Bumblebees are the first pollinators to come out at 42˚ F; other native bees and flies come out when the temperatures are in the 50s. Cross pollination is the ultimate goal of spring ephemerals, and they all have strategies to attract pollinators. Most spring ephemerals have flowers that are very short lived, so their chance of cross-pollination is not great. Therefore, they all have alternate strategies to reproduce through self-pollination, or vegetatively, through corms, rhizomes, etc.

Spring beauties

Spring beauties (*Claytonia virginica*) carpet the forest floor with beautiful flowers. On a sunny day their cheery flowers appear to have little stipes on them that guide the bees right into the pollen-filled centers. But on cloudy, windy, rainy days, the flowers close to protect the precious pollen. They can self-pollinate if weather conditions prevent

cross pollination. But cross pollination is always preferable because it introduces genetic variation. Spring beauties also reproduce vegetatively through corms. If you have a shady spot in your yard, stop mowing and mulching and spring beauties may appear.


Closed spring beauty flowers

Most spring ephemerals also have a strategy to disperse their seeds a short distance from where they are growing. Thirty percent of Virginia wildflowers have their seeds dispersed by ants; this is called myrmecochory and occurs with over 11,000 plants worldwide benefiting from this special partnership between plants and ants. Our true ephemerals — twinleaf, Dutchman's breeches, rue anemones, trilliums, trout lilies, violets, spring beauties, star chickweed, and Virginia blue bells — all use myrmecochory.

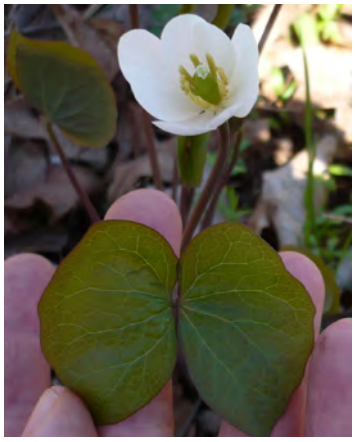
The white jelly-like substance is the elaiosome. Photo courtesy of Randy Tindel

Plants that use myrmecochory evolved over time to have seeds with elaiosomes, fatty structures that are attached to the seeds of these plants. and ants are attracted to these tasty treats. Ants carry the seeds back to their underground nests, chew off the elaiosomes, and feed them to their larvae. The ants then discard the seeds in their underground compost pile. What better place for a seed to germinate and grow? Since the ants can't carry the seeds very far, the service they are performing might also be protecting the seeds from being eaten by mice and other hungry critters. Avoid using chemicals in your yard so your local ants can provide these beneficial services to your plants.

Each of our spring ephemerals is beautiful and unique in its own way.

Twinleaf offers stunning white flowers growing on bare stalks about 8 inches tall. Each flower lasts just one day. Like a number of other white-flowered spring ephemerals, Jeffersonia flower petals contain flavonoids, a plant pigment, that may function to attract pollinators by absorbing ultraviolet light and creating color patterns that are visible to insects. Emerging after the flowers, the leaves are deeply divided into two lobes giving the appearance of being two separate leaves. The botanic name is *Jeffersonia diphylla*, after Thomas Jefferson who grew them in 1807 in one of Monticello's oval beds.


Twinleaf flower with pollinator


Twinleaf leaf


Dutchman's breeches

Dutchman's breeches (*Dicentra cucullaria*) blooms in the early spring from March to April. Flowers are white to pink and resemble a pair of pantaloons hanging upside down. They last up to two weeks. The flowers are pollinated

by early bumblebees and butterflies whose proboscises are long enough to tap the nectar. This graceful, low-growing plant spreads by offshoots of corms forming large clumps. Caution, all parts contain high levels of toxic alkaloids and should not be consumed and may cause skin irritation.


Rue anemone

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 summer bloomer tall meadow rue. The flower lacks nectar and attracts pollinators through its color and flower shape, mimicking flowers that do have nectar attractive to native flies and several kinds of bees (including honey, carpenter, cuckoo, mason, sweat, and mining bees). But pollination is chancy; the plant reproduces through seeds and also from small potato-like tubers that can be separated to get new plants.


Trout lilies

Trout lilies (*Erythronium americanum*) tend to grow in large colonies. However, only a few individuals in a colony will bloom, with some being too young and others being too crowded. Trout lilies get their name from their mottled leaves that resemble trout. A large colony with its glossy leaves and yellow flowers dancing above the leaves is a sight to behold.

Our beloved **Virginia bluebells** (*Mertensia virginica*) are familiar to all of us. What may be new to you is how versatile and easy they are to grow. They need reasonably moist soil and a spot that will be shaded when the tree leaves come out. Buy two or three potted plants this spring and plant them in a good spot with reasonably deep soil. Remember that their favorite spots are along forested flood plains along rivers and streams, but they will adapt to higher, drier areas. Along the Potomac River, they grow in dense colonies on the flood plains but also appear up on the bluffs.


Virginia bluebells

Bluebell clusters form and grow from underground rhizomes. But they travel distances and jump sidewalks via ants carrying their seeds. With time, your bluebell cluster will grow and spread.

Bluebells are larger than most ephemerals; they are very visible even from a distance, and then they totally melt away in June. You can use ferns to fill in the bare spots or hosta if you don't have deer. Bluebells have deep taproots and don't transplant well. Mark where you have planted them so you don't disturb the rhizomes while gardening later in the season. Bluebells will provide joy and surprises every spring.


Bluebell flowers emerging

Look for spring wildflower walks in the area, and if you are interested in adding a few spring natives to your garden, search here for spring sales and native nurseries.

Unless otherwise attributed, all photos taken by Carol Ivory at Balls Bluff Regional Park in Leesburg in 2011

Tree Care During Drought in Loudoun County

David Rohrbach, Loudoun County Extension Master Gardener, Tree Steward

During the years 2023 and 2024, Loudoun County faced severe drought conditions. The Master Gardeners Help Desk at the Virginia Cooperative Extension office received many inquiries about dying trees, and residents sought guidance on how to save their trees. The following guidelines provide a brief overview of the risks of drought in Loudoun County and appropriate measures for improving tree survival.

What is Drought?

Drought is essentially a measure of the degree to which precipitation and water availability fall below normal for a given environment. A weekly estimate of drought is published for Loudoun County by the National Integrated Drought Information System (NIDIS) (see: https://www.drought.gov/states/virginia/county/loudoun). The underlying Drought Severity Index compares data on temperature, soil moisture, water levels in streams and lakes, snow cover, and meltwater runoff with their historical averages. The index ultimately differentiates between five levels of drought including abnormally dry, moderate drought, severe drought, extreme drought, and exceptional drought. During the last week of February 2025, all of Loudoun County was still experiencing a moderate drought.

Figure 1 outlines the levels of drought witnessed in Loudoun County as a whole over the past 25 years. This highlights the fact that short-term moderate drought is endemic in Fairfax County. While average rainfall is favorable for plant growth, periods of moderate drought occur during the growing season of most years. Periods of severe drought occur, on average, every four or five years. In 2024, the region experienced one of its occasional periods of extreme drought. Such extremes also appeared in 2002 and 2007. The impact of last year's drought was worsened because it followed an extended period of severe drought the previous year.

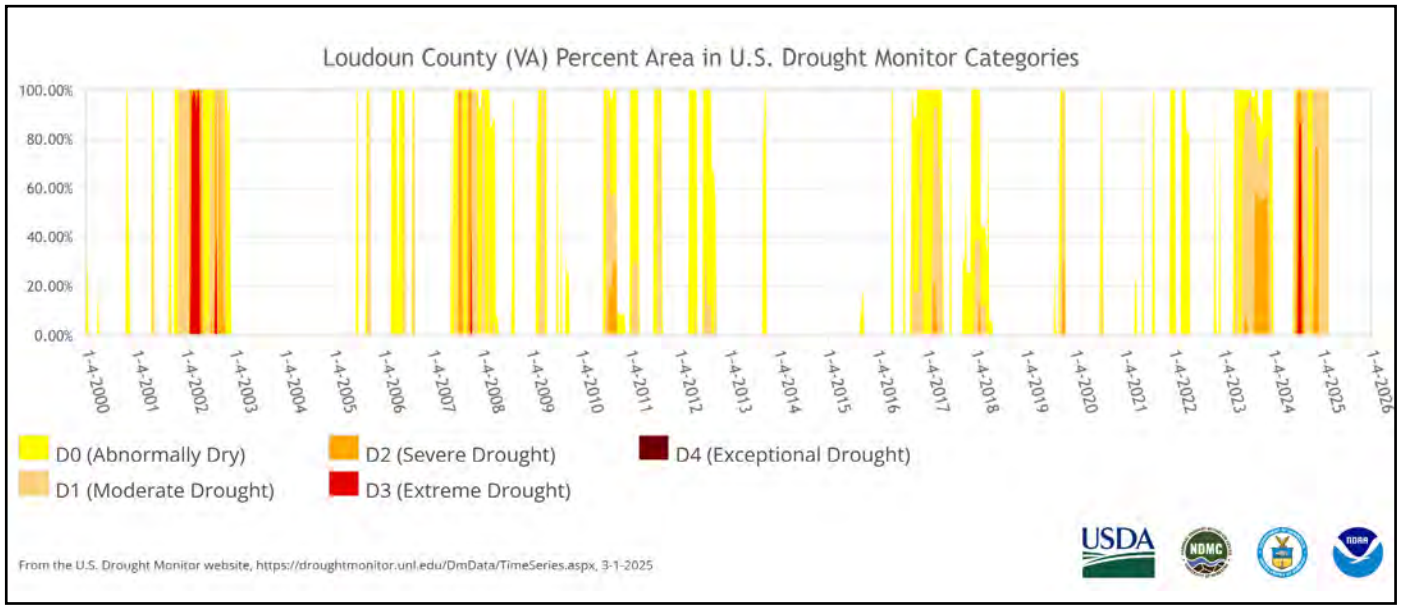


Figure 1: U.S. Drought Monitor

Why Is This Dangerous for Trees?

Trees are commonly made up of 50 percent or more water. Leaves and needles, especially when growing, are made up of 90 percent water. This moisture is essential for photosynthesis — enabling plants to use light energy to convert carbon dioxide and water into oxygen and glucose essential for plant growth. Additionally, this process aids in cooling the air and contributes to carbon sequestration, which is beneficial in mitigating atmospheric carbon levels and addressing climate change.

When trees do not have enough water, photosynthesis slows. During severe dry spells, growth stops. If plants lose water faster than they can absorb it, stems and leaves lose their turgidity and wilt. If the dry spell persists over an extended period, deciduous leaves and conifer needles turn brown and branches begin to die.

Water constraints also increase the susceptibility of trees to insects and diseases. Trees lose their capacity to produce defensive chemicals that ward off predators. And weak or damaged tissues are more prone to invasion by multiple pathogens. Research studies commonly link drought with increases in borer activity and scale, as well as diseases such as wilt, canker, and root decay.

Diagnosing Drought Stress

Many different stresses can undermine the health of trees. Some display symptoms similar to drought. For example, leaf viruses cause a similar browning of the leaf. Various sorts of insects, particularly sucking insects, can reduce water flows in the plant contributing to wilting and leaf dieback. Damage from mowers or grass trimmers cutting the bark of the tree at the base open pathways for the introduction and spread of fungi leading to the gradual death of branches and leaves. Poor pruning can have a similar impact. Even overwatering a tree can create symptoms similar to drought.

Regardless of weather conditions, it is useful to regularly inspect landscape trees. Look for insects, diseases, and signs of dieback that may threaten tree growth.

Die-off beginning at the top
Photo: David Rohrbach

Diagnoses of water stress may start from a review of local rainfall records. Mature trees in good condition should be able to withstand short periods of moderate, or even severe, drought. But if trees are subject to multiple stresses, the impacts of poor rainfall can worsen. Much may depend on the position of the tree in the landscape. Low rainfall can be more difficult for urban and suburban trees planted near hot streets and driveways. Trees planted in the open are more likely to be stressed by drying winds.

Browning of evergreens
Photo courtesy of David Rohrbach

If drought is suspected, initially watch for evidence of leaf and small branch wilt. Next, the outer edges of deciduous leaves begin to turn brown. Conifer needles start to die, also turning brown. Over time, entire leaves and whole branches begin to die. Often this appears first in the uppermost

branches of the tree furthest from the root. But this could also be evident in lower branches already affected by other stresses. Eventually, the tree's bark begins to crack and peel.

Responding to Drought Stress

Watering: If drought stress is recognized, the logical early response is to provide the tree with supplemental water. Within the first two years of planting, small trees need more consistent access to water to allow their roots to grow and spread. Initially, this water needs to be concentrated in the area of the root ball. As the tree grows, the area of watering should be spread wider to match the expansion of the growing leaf canopy. Depending on the size of the sapling, this may require 10 to 20 gallons of water per week applied gradually to avoid runoff.

More mature trees have an array of feeder roots collecting nutrients and water extending to, and beyond, their canopy, or drip line. Most of these roots are situated in the top three to eight inches of the soil. These roots may be shallower if soils are compacted, and a bit deeper if soils are more friable. Feeder roots tend to be a little deeper in sandy soils and shallower in clay soils.

As a general rule, mature trees need approximately at least one inch of water per week for good growth. Homeowners can dig a small hole 3 to 6 inches into the soil around a tree to check moisture levels. If supplementary watering is needed, this needs to be provided gradually via sprinkler or soaker hose in order to minimize runoff. Also, it is best to provide this water early in the morning or in the early evening to minimize evaporation. A small measuring cup or rain gauge can be used to check the level of water provided. The application of approximately 0.6 gallons is needed to provide one square foot of area with one inch of water. Correspondingly, about 38 gallons of water is needed to support a tree with an 8 foot by 8 foot (64 square foot) canopy.

Finally, it is important not to overwater. If most soil pores are filled with water (waterlogging), this blocks the tree's access to oxygen needed for root respiration and plant growth. The tree then begins to die.

Add Mulch: Applications of mulch help reduce water evaporation in the feeder root zone. A thin layer (e.g., 2 to 3 inches) of larger-sized wood chips allows infiltration of air and water to the roots. If the layer is too thick (e.g., more than 3 inches), the tree could suffer from a lack of adequate oxygen. A buildup of humidity can cause root rot.

A common mistake is to place mulch up against the tree trunk or worse, to pile this up against the trunk (mulch volcanos). This encourages bark decay and increases the risks of fungal diseases. Mulch volcanoes can also encourage root growth around the tree trunk, girdling the tree. This reduces the tree's access to water in the surrounding landscape. In general, mulch should be placed 6 to 12 inches away from the tree trunk and spread out to the extent of the drip (or canopy) line, covering the main set of feeder roots.

Fertilizer: In general, fertilizer should not be applied if soils are dry. The salts in fertilizer can injure the tree roots. Also, mature trees generally do not require supplemental fertilizer.

However, if the soil around the tree is tested, and found deficient in key nutrients, fertilization can improve a tree's tolerance of drought. Any such application should follow the advice derived from a soil test and should only be applied when the tree has adequate moisture.

Fungi: Recent research has also suggested that the application of Arbuscular mycorrhizal fungi (AMF) treatments can offset drought stress in trees. Residents interested in experimentation with this may consult a certified arborist.

Pruning: Finally, drought-stressed trees should not be pruned until well after the dry spell has ended. Such pruning simply places additional stress on the tree--especially if the pruning extends into living tissue.

Checking Drought Affected Trees in the Spring

The severity of damage caused by drought stress often only becomes apparent in the spring when the tree begins to grow again. At this time of year, it is important to again inspect landscape trees for signs of damage. If a tree branch is living, this will first show signs of budding and then leaf, branchlet, and needle growth. Limited damage may appear in the form of dead smaller branches or branch tips. After a windstorm, the homeowner may find large numbers of small branches on the ground. However, most trees suffering minor damage should fully recover.

In more severe cases, however, one or more larger branches may be lost. These should be trimmed out to prevent infection entering the tree through the dead wood. (See A Guide to Successful Pruning: www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/430/430-456/SPES-403.pdf). A certified arborist may need to be consulted to assess the health of the overall tree. Many trees suffering severe damage are unlikely to recover.

In cases where the tree has died, it is worth identifying what factors may have contributed to the loss. Is the species right for the location? Was it planted correctly? Did the tree receive an appropriate level and placement of mulch? And did it receive access to enough water when the drought was most severe? Learning from this experience will improve judgment about tree placement and management in the future.

Preparing for Drought Stress

Finally, homeowners should keep in mind that good management practices from the time of planting can make trees more drought tolerant. These include:

1. Right Tree for Chosen Location

Select a tree species suited to our plant hardiness zone (zone 6 or 7 in most of Loudoun County) and suitable to the environmental conditions of the planting site. The obvious concern is whether the tree is to be planted in full sun or partial shade, but it is also worth considering if the location may be affected by drying winds, heat reflection from nearby buildings or roads, or salt.

2. Plant Smaller Tree Stock

The planting of smaller tree stock commonly yields larger and healthier trees as they mature. This is because the tree roots have a better chance to extend into native soils. Trees purchased as larger "balled and burlapped" stock generally have 60 percent or more of their roots cut off when prepared for sale. Larger trees in pots commonly display root girdling around the pot, choking the inner roots and discouraging root extension in the soil. Smaller trees are easier to plant, and care for, in the critical initial two years, and they grow faster.

3. Plant Correctly

Plant trees at proper depth, generally without soil amendment, and with a thorough watering. Holes should not be deeper than the root ball, but should be at least twice as wide. Keep the root flare above the surface of the ground. Pull the roots out away from the plant. Cut any roots girdling the root ball. Be sure the location allows plenty of room for the roots and canopy to extend as the tree grows. Additional advice on tree planting is available in the Virginia Tech publication, Planting Trees, found at: https://www.pubs.ext.vt.edu/426/426-702/426-702.html.

4.Mulch

Add approximately 2 inches of mulch, but keep this mulch 6 to 12 inches away from the tree trunk.

5. Water Well

On planting, water the root ball. Continue watering when rain levels are low for the first two years to assure good establishment of the roots in native soils. Thereafter, only water during periods of extended drought when soils in the feeder root zone are dry.

6. Inspect the Tree

Watch the tree throughout the growing season for signs of water stress, insect or disease incidence, or damage from garden equipment.

If the tree is planted and managed well, it should be able to withstand all but the most extreme droughts.

Gardening on a Slope

Gaye Mara, Loudoun County Extension Master Gardener

I moved to hilly western Loudoun County a year and a half ago, and sloping ground is a fact of gardening life for me here. If it's a fact of life for you, too, you may already know the problems slopes cause in the landscape:

- **It's hard to garden there.** If we garden on a slope, it is hard to get around on it to plant and maintain the garden. And in our changing climate, the top of the slope bakes bone dry in the summer heat and drought, and the bottom gets sopping wet in heavy rains, complicating our choices of plants —not to mention their survival!
- **It's hard to mow there.** If the ground is covered with turf grass instead, it's hard—even hazardous—to mow on a slope. Perhaps, like me, you know someone who's been badly injured when their riding mower toppled over on a slope. Furthermore, turf grass is very shallow-rooted and poor at holding soil in place.
- **Erosion happens there.** Heavy rain washes mulch and soil, and even new or shallow-rooted plants, off the slope and dumps them onto lower ground and into streams.

Yet installed properly, a garden on a slope can be as easy to maintain as any other garden. It will also make your landscape more interesting and inviting than would a garden on flat ground.

There's a variety of solutions for creating a garden on a slope. My property has nothing but slopes, so I am trying them all:

- leveling the slope out to the top of a retaining wall,
- stepping the slope down gradually with a series of terraces, and
- covering the slope with a combination of deep-rooted, fast- spreading, low-maintenance plants to stabilize it and keep the soil in place.

Retaining Walls

For an especially steep slope, say 40° or steeper, this is probably the best solution. A solid block or stone wall is constructed along the foot of the slope and the gap behind it filled with sand or gravel topped with deep soil to level the ground out to the top of the wall. The wall needs to be very slightly tilted back toward the slope to reduce the forward pressure from the soil, and good drainage and a firm, level base for the wall must also be provided. This is best done by a professional, and that's expensive. I watched online videos and read do-it-yourself books from the library (I especially liked Kevin Gardner, *The Granite Kiss: Traditions and Techniques of Building New England Stone Walls*) and decided against DIY for a retaining wall (but did use it for the terracing—see below).

Retaining wall by a driveway
Photo courtesy of Gaye Mara

A professional stonemason and his crew built the retaining wall in the photo to hold the slope beside my

driveway (and widened the driveway at the same time). The remaining slope above the wall was then planted with a diverse selection of native plants: trees, shrubs, grasses, and perennials.

A gabion wall on the English Channel near Bournemouth, shoring up the ends of an Iron Age settlement.
Photo credit: Mr. Ignavy, geograph.uk.org.

Another type of retaining wall—easier to build and less expensive—that I've heard about but haven't tried, is a gabion wall. They are widely used in Europe and seem to be catching on in the US.

A gabion wall consists of a wire cage filled with rocks and is a type of wall used to stabilize stream banks. The cages, or "baskets," come in various sizes to suit the size of the project. The finished product is not as attractive as a traditional stone wall, but you can improve its appearance by using more attractive stone; by draping perennial vines or other trailing plants over the wall; and/or by stuffing soil in the spaces between the rocks and planting there. (Our native coral honeysuckle, *Lonicera sempervirens*, would provide spectacular draping and attract hummingbirds.)

You can find on the Internet videos showing both kinds of retaining walls and how to build them, as well as vendors for gabion baskets (which I couldn't find locally).

Terraces

Slopes can be terraced with brick, block, stone, logs, or landscaping timbers. I chose stone.

Last June, two young men with kind hearts and strong backs (my grandson and grandnephew) built two terraces to step down the slope in my back yard. We used building stone, which is less expensive but also less attractive than landscaping stone or blocks, to make two low walls—first the lower wall, then the upper wall. Then we leveled the clay soil behind each wall and sheet-mulched the ground with cardboard, compost, and mulch to block weeds and kill the turf. In late fall I started planting the beds, punching through the cardboard. There will be a lot more planting this spring.

Landscaping stones or blocks would have been much easier to use. Building stones are odd shapes and sizes and tricky to lay out, and as a result there are a lot of spaces between the stones. But I've seen lizards and toads using those spaces, and birds nosing into them. It's nice to see my rough walls making homes and hunting grounds for wild creatures. And I'll add plants that trail over the walls to soften their appearance.

Backyard terraces
Photo courtesy of Gaye Mara

Both terraces curve lengthwise with the curve of the slope. The lower terrace is about 60 feet long and 5 feet deep; the 5-foot depth allows for a 4-foot-deep planting bed with a narrow path behind it, along the foot of the upper wall. The path will let me pass behind the lower bed to maintain the plantings toward the rear of that bed as well as the plantings at the front of

the upper terrace. The upper terrace is about 40 feet long with the rest of the slope rising above it; the level planting area is again about 4 feet deep so I can reach to the center from both the front and the back of the bed.

Another benefit of a low terrace wall—say 1½ to 2 feet high—is that it can also double as seating for you to work in the garden and for your guests at a garden party.

Plants

Finally, I'm leaving the slope in front of the house and planting it with a mix of small trees, shrubs, and perennials. Native plants with their tough constitutions are ideal for the conditions. They will prevent erosion with deep roots that hold the slope and a foliage canopy that protects the soil from the heat of the sun and the force of driving rains.

I installed the woody plants last fall: a pagoda dogwood, *Cornus alternifolia* (a beautiful and underutilized small native tree); four winterberry hollies, *Ilex verticillata* (a deciduous holly whose bright red berries light up the garden all winter); and two "Gro-Lo" sumacs, *Rhus aromatica* "Gro-Low" (a fragrant, low-growing, fast-spreading shrub with red fall foliage and red berries). I'll add a mix of groundcovers, grasses, and flowering perennials this spring based on a plan being prepared by a garden designer who specializes in native plants. (See the publications under "Resources" below for lists of recommended plants.)

The mature garden should eventually be glorious, but at the moment it is a weed-infested hill with leafless saplings poking out of a few cleared spaces. So, here's a photo of a slope planted with natives at the Mt. Cuba Center. I snapped the photo in August at the end of a hot summer, yet this garden is still blooming exuberantly. (If you're not acquainted with Mt. Cuba, it is a wonderful public garden in Delaware. It showcases only native plants—many of which are also native to Northern Virginia—and trials them as well, publishing reports on the varieties that are most vigorous and low-maintenance. Their website is at https://mtcubacenter.org.)

Hillside native plant garden at Mt. Cuba Center
Photo courtesy of Gaye Mara

Jute netting on a slope planting in progress. After planting, the jute is hidden under mulch, where it biodegrades over time. Photo credit: Pete Corbino, District Native Plants.

My new plantings here must be kept in place until their roots have grown enough to anchor them in the soil. Jute netting does a good job of that: It's loosely woven so you can plant through it, it's widely available from garden suppliers, and it's environmentally friendly, biodegrading as the plants establish.

The bed needs regular watering and weeding for the first year after planting. After that it should need only sporadic attention.

A note about mulch: It's hard to keep mulch on a slope;

groundcovers are a better option. They function as a living mulch that cools the soil and shields it from sun and rain. Two good groundcovers for our region, both of which grow in my gardens and neither of which seems to appeal to deer, are green-and-gold, *Chrysogonum virginianum*, and golden ragwort, *Packera aurea*. Others are listed in the publications referenced below.

And speaking of deer, they will eat anything, even holly, if they are hungry enough. But ferns (for shade), grasses (for sun), and sedges (for sun or shade) are some of their least favorite foods and also make good groundcovers.

My slope gardening adventure will continue for some time. I wish you well with yours!

Resources

There are plenty of resources available to help you get started on a slope garden.

The Loudoun County Master Gardeners provide advice and literature on gardening subjects at our garden clinics and community events during the growing season. To find an event near you, go to https://loudouncountymastergardeners.org/events/. We also provide soil test kits, or you can pick them up at your local Cooperative Extension office—the results of a soil test will help you prepare the soil in your garden to give your new plantings the best chance of success. Finally, we staff a Help Desk at the Extension Office where you can email, call, or visit us with your gardening questions (see https://loudouncountymastergardeners.org/gardening-advice/help-desk for more information).

The Virginia Conservation Assistance Program (https://vaswcd.org/vcap/) provides partial reimbursement for the cost of replacing turfgrass, bare soil, or pavement with native plants. In Loudoun County, contact Chris Van Vlack at chris.vanvlack@lswcd.org or (571) 918-4530, ext. 107, for more information and assistance. Other states may have similar programs. See, for example, the RainScapes program in Montgomery County, Maryland, https://www.montgomerycountymd.gov/DEP/property-care/rainscapes/index.html.

Publications

Izel Native Plants, an online plant vendor, has two good articles on its site about gardening on a slope (thanks to Master Gardener Carol Ivory for putting me onto them). They are:

- "Best Practices for Planting on Slopes," https://www.izelplants.com/blog/best-practices-for-planting-on-slopes/.
- "Plant Forward Solutions for Erosion," https://www.izelplants.com/blog/plant-forward-solutions-for-erosion/.

Fairfax County also has some good articles on the subject on its website:

- "Stop Erosion – Solving Drainage and Erosion Problems," https://www.fairfaxcounty.gov/soil-water-conservation/drainage-problem-protect-eroding-land/.
- "Plants for Erosion Control," https://www.fairfaxcounty.gov/soil-water-conservation/drainage-problem-plant-list/.

Plant NOVA Natives has a good list of "Native Plants for Steep Slopes and Erosion Control" at https://www.plantnovanatives.org/erosion-control. It has also published a free, downloadable guide to *Native Plants for Northern Virginia* (also available in a modestly priced hard copy version) at https://www.plantnovanatives.org/buy-the-native-plant-guide-book.

Another, more comprehensive guide to native plants in our region, *Native Plants for Wildlife Habitat and Conservation Landscaping, Chesapeake Bay Watershed*, is available from the U.S. Fish and Wildlife Service. Its 83 pages pack a wealth of information on hundreds of native ferns, grasses, flowering perennials, shrubs, trees, and vines. The guide also offers recommendations for plants to grow on slopes, plants to use as groundcovers, and plants that are deer resistant. It can be downloaded free of charge at https://www.fws.gov/media/native-plants-wildlife-habitat-and-conservation-landscaping-chesapeake-bay-watershed.

More Butterflies? Be a Better Butterfly Host

Barbara DeRosa-Joynt, Loudoun County Extension Master Gardener

Red Admiral butterfly
Photo courtesy of Barbara DeRosa-Joynt

Who among us doesn't like butterflies? Yet many people lament that they see far fewer of these flying jewels these days without realizing how they can help make a difference on their property. Your eyes are not deceiving you, butterflies are in decline. Monarch butterflies get most of the press, and indeed their population losses are staggering, down 80% from historical levels. But many other butterfly species, and all insects for that matter, are also suffering serious population losses in recent years. Migratory Monarchs congregate at overwintering sites so it is possible to measure their population levels, but scientists believe that most other butterflies are in decline, they are just much harder to count. Nearly 20% of the 800 butterfly species in the United States are at risk of extinction. Butterflies face a wide range of threats, including habitat loss, climate change, disease, pesticides, and invasive plants. The good news is that you can make a difference on your own property by adding habitat, avoiding using pesticides, and removing invasive species.

Monarch caterpillars
Photo courtesy of Barbara DeRosa-Joynt

Want more butterflies in your garden? While planting flowering plants to support butterflies and other pollinators is important, and you are encouraged to plant plenty of nectar rich flowering plants, preferably native plants. However, those nectar-rich flowering plants only feed **adult** butterflies. Adults are the most common butterfly life stage that we see because these eye-catching creatures flit around our gardens; however, as we remember from elementary school science class, butterflies start out as larvae, aka caterpillars. And caterpillars don't eat nectar, they eat plant material – usually leaves but some may also eat flowers, seed pods, and/or stems. But caterpillars are often hard to see, camouflaged or otherwise hiding to avoid predators, and it is easy to forget that in order to help butterflies you need to feed them at all stages of their life cycle, including their caterpillars.

A key element missing from many gardens, including some pollinator gardens, is larval "host plants," which are plants required for growth and development of a butterfly (or moth) caterpillar. These plant relationships developed as butterfly and plant evolved over time with the plants and insects trying to defeat each others' defense mechanisms and somewhere along the way finding a delicate balance over the course of many generations. Some butterflies have specialized on a single genus, like monarch butterflies using milkweed (*Asclepias spp.*) as their host, where others like the Eastern Tiger Swallowtail, are generalists whose caterpillars can eat plants from multiple plant families.

The most beneficial plant you can plant to support pollinators (and many other forms of wildlife) is an oak tree, because oaks host more than 500 butterfly and moth species' caterpillars. If you have room for an oak

tree please plant one, or even more than one – the Digital Atlas of the Virginia Flora shows 13 species are native to Loudoun. Since not everyone has room on their property for an oak, below is a list of 15 gorgeous Virginia butterflies and their native host plants. While some of these plants are large, a number of them are smaller and can thrive in pots on a patio, balcony, or a small townhouse yard. If you plant them, the butterflies will find you.

American Lady aka American Painted Lady (*Vanessa virginiensis*)

Native host plant: Plantain-leaved pussy toes (*Antennaria plantaginifolia*)

Blooms: white, April-June

Size: 4-6" high, 1-2' wide

Light: full sun-part shade

Moisture: medium-dry

Other host plants include: New York Ironweed (*Vernonia noveboracensis*), Pearly everlasting (*Anaphalis margaritacea*)(native to VA but not Loudoun)

Black Swallowtail (*Papilio polyxenes*)

Native host plant: Golden alexander (*Zizia aurea*)

Blooms: yellow, April-May

Size: 1-2' high and wide

Light: full sun-full shade

Moisture: medium-moist

Other host plants include: (non-native) parsley, dill, fennel, rue

Crossline skipper (*Polites origenes*)

Native host plant: Little bluestem (*Schizachyrium scoparium*)

Blooms: purple, August-September

Size: 2-4' high, 1-2' wide

Light: full sun

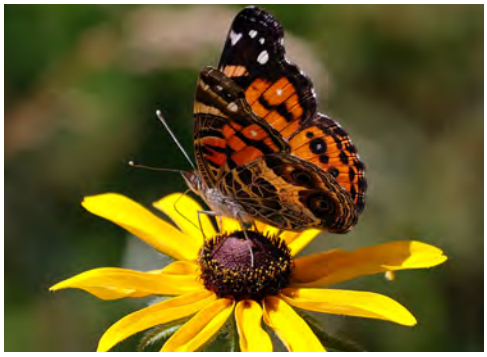
Moisture: dry-moist

Other native host plants include: Purpletop grass (*Tridens flavus*)

Dun skipper (*Euphyes vestris*)

Native host plant: Pennsylvania sedge (*Carex pensylvanica*)

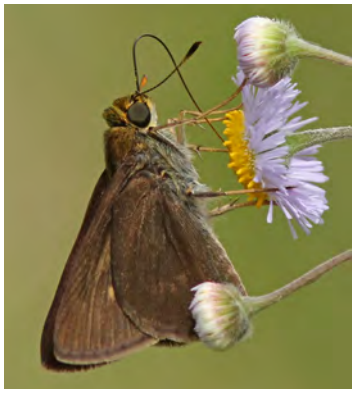
Blooms: yellowish-green, April-July



American Lady
Photo courtesy of Lydia Fravel

Black Swallowtail on *Zizea aurea*
Photo courtesy of Barbara DeRosa-Joynt

Crossline skipper
Photo courtesy of Andrew Cannizzaro



Dun skipper
Photo courtesy of Mary Keim

Size: 8" high, 1' wide

Light: part shade-full shade

Moisture: dry-moist

Other native host plants include: other sedges (*Carex spp.*)

Eastern Tiger Swallowtail (*Papilio glaucus*)

Native host plant: Sweetbay magnolia (*Magnolia virginiana*) (native to Northern VA but not Loudoun)

Blooms: white, May-June

Size: 10-35' high and wide

Light: full sun-part shade

Moisture: dry-moist

Other native host plants include: Wild cherry (*Prunus serotina*), Tulip tree (*Liriodendron tulipifera*), River birch (*Betula nigra*)

Eastern Tiger Swallowtail
Photo: Barbara DeRosa-Joynt

Great spangled fritillary (*Speyeria Cybele*)

Native host plant: Common blue violet (*Viola soraria*) and many other violets (*Viola spp.*)

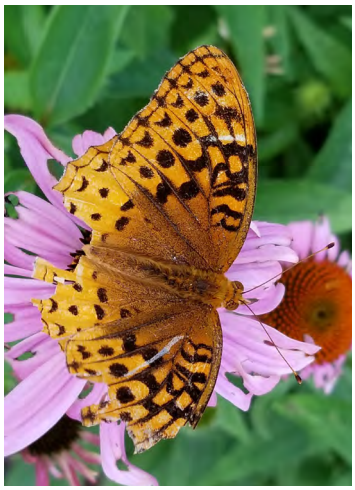
Blooms: blue/purple, March-June

Size: 6-10" high and wide

Light: full sun-full shade

Moisture: medium

Other native host plants include: There are numerous fritillary species, some of them can use Mayapple (*Podophyllum peltatum*) and Passionflower (*Passiflora incarnata*) (native to Northern VA but not to Loudoun)



Great spangled fritillary
Photo: Barbara DeRosa-Joynt

Monarch (*Danaus plexippus*)

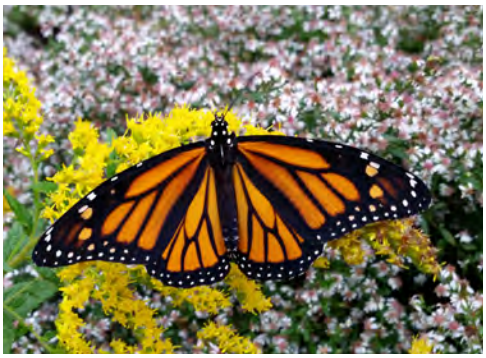
Native host plant: Swamp Milkweed (*Asclepias incarnata*) and all other milkweeds (*Asclepias spp.*)

Blooms: pink, July-September

Size: 1-5' high, 3-4' wide

Light: full sun-part shade

Moisture: Medium-wet, tolerates wet soil



Monarch on goldenrod and asters
Photo courtesy of Barbara DeRosa-Joynt

Painted lady (*Vanessa cardui*)

Native host plant: Hollow Joe Pye weed (*Eutrochium fistulosum*)

Blooms: pink, August-October

Size: 4-8' high, 2-4' wide

Light: full sun-part shade

Moisture: medium-wet, tolerates wet soil

Other host plants: More than 100, including Rose mallow (*Hibiscus moscheutos*), Ironweed (*Vernonia spp.*), and Thistle (*Cirsium spp.*)

Pearl crescent (*Phyciodes tharos*)

Native host plant: New England Aster (*Symphyotrichum novae-angliae*) and many other asters (*Symphyotrichum spp.*)

Blooms: pink, August-October

Size: 3-6' high, 2-3' wide

Light: full sun

Moisture: medium-wet

Pipevine swallowtail (*Battus philenor*)

Native host plant: Dutchman's Pipe (*Aristolochia macrophylla*)

Blooms: mauve, May-June

Size: vine, can reach 30' or more

Light: part sun

Moisture: medium

Other native host plants include: Virginia snakeroot (*Aristolochia serpentaria*)

Silver spotted skipper (*Epargyreus clarus*)

Native host plant: Blue false indigo (*Baptisia australis*)

Blooms: purple/blue, May-June

Size: 3-4' high, 2-4' wide

Light: full sun-part shade

Moisture: medium

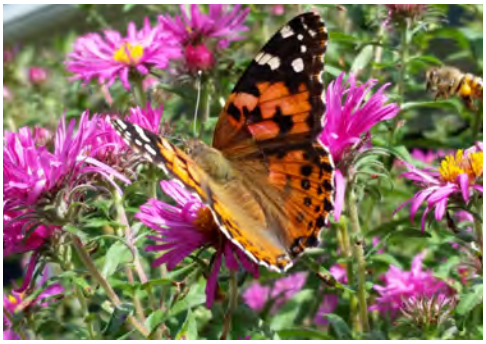
Other native host plants include: American wisteria (*Wisteria frutescens*) and Showy tick trefoil (*Desmodium canadense*)

Silvery checkerspot (*Chlosyne nycteis*)

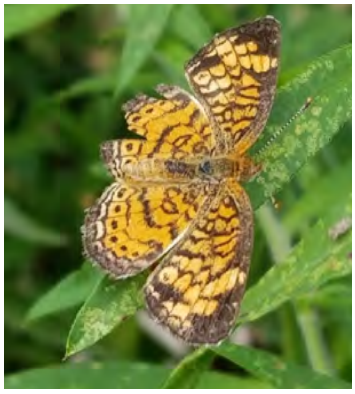
Native host plant: Black-eyed Susan (*Rudbeckia fulgida*)

Blooms: yellow, August-October

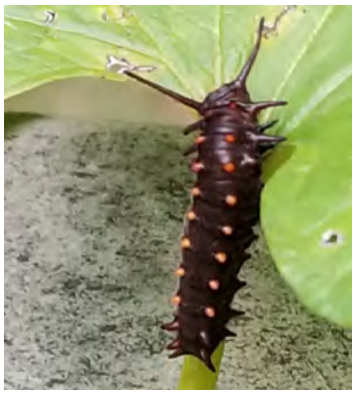
Size: 2-3' high, 2-3' wide



Painted lady
Photo courtesy of Barbara DeRosa-Joynt



Pearl crescent
Photo: Barbara DeRosa-Joynt



Pipevine swallowtail caterpillar
Photo: Barbara DeRosa-Joynt

Silver spotted skipper
Photo courtesy of Tom Potterfield

Light: full sun-part shade

Moisture: medium-dry

Other native host plants include: Wingstem (*Verbesina alternifolia*), Purple Coneflower (*Echinacea purpurea*) (native to the United States but not to VA), Asters (*Symphyotrichum spp.*) (Many aster species are native to Loudoun), Goldenrod (*Solidago spp.*) (Many goldenrod species are native to Loudoun)

Silvery checkerspot caterpillar
Photo courtesy of Judy Gallagher

Spicebush swallowtail (*Papilio Troilus*)

Native host plant: Spicebush (*Lindera benzoin*)

Blooms: yellow, March-April

Size: 10-20' high, 5-12' wide

Light: part sun-full shade

Moisture: medium

Spicebush swallowtail caterpillar
Photo courtesy of Mary Keim

Zabulon skipper (*Poanes zabulon*)

Native host plant: Purple lovegrass (*Eragrostis spectabilis*)

Blooms: reddish, July-August

Size: 2-20" high, 2' wide

Light: full sun

Moisture: dry

Other native host plants include: Purpletop grass (*Tridens flavus*), Virginia wild rye (*Elymus virginicus*)

Zabulon skipper
Photo courtesy of Dendroica cerulea

Zebra swallowtail (*Eurytides marcellus*)

Native host plant: Pawpaw (*Asimina triloba*)

Blooms: maroon, early-mid April

Size: 10-15' high, 3-6' wide

Light: part sun full shade

Moisture: dry-moist

Zebra swallowtail
Photo courtesy of Barbara DeRosa-Joynt

Other considerations for welcoming butterflies on your property:

Don't be so tidy! In addition to the butterflies listed above, some, like Clouded sulphur (*Colias philodice*), Eastern tailed blue (*Cupido comyntas*), Common buckeye (*Junonia coenia*), and Gray hairstreak (*Strymon melinus*), will use white clover and plantains in your lawn.

If you blast every lawn weed with herbicides you remove these important food sources for butterflies and bees.

Many fritillary species will leave their eggs in leaf litter near but not on the violets their caterpillars will eat, so if you clean every bit of debris out of your garden these butterfly mamas will have nowhere to lay their eggs. In the fall, leave healthy plant stems standing and leave the leaves in your flower beds. A number of butterflies that overwinter in Virginia do so as chrysalides, and some disguise themselves as dead leaves on plant stems or tucked in the leaf litter to camouflage themselves from predators. Some overwinter as adult butterflies or caterpillars and nestle under the leaf litter as they wait for spring.

These insects are masters of disguise and are purposely very hard to see and easy to miss if you cut down the stems and remove the leaves. For the same reason you are encouraged to wait to tidy up your garden in spring until the weather is consistently warm. Do your best to wait until we have had temperatures in the 50s for five days in a row before doing any spring cleanup—note that some sources recommend waiting for five evenings of 50 degrees in a row before tidying up.

Poison Ivy Characteristics, Effects, and Treatment

Heather Swanson, Loudoun County Extension Master Gardener

Poison ivy is a native plant that is beneficial to birds, deer, flying squirrels, and other animals who safely eat this plant's leaves, stems, and berries. Only human beings suffer from its negative effects. Late winter and early spring are a particularly tricky time to pick up poison ivy. You can be digging in your garden, strike a poison ivy root, or touch a bare twig, not knowing what it is. You are then likely to get a rash. You may also wipe your face or touch your eye, and then it's so much worse. Here's what you need to know about poison ivy.

There are nine different subspecies of poison ivy that grow across North America, from Nova Scotia to Mexico. It is found in all parts of the United States. Plants in the *Toxicodendron* family include poison ivy, poison oak, and poison sumac. A quick consultation with the volume *Flora of Virginia* reveals that what we need to be concerned about in Northern Virginia is poison ivy. Poison ivy, *Toxicodendron radicans*, is described in *Flora of Virginia* as ubiquitous in a wide range of habitats throughout Virginia. Because birds find the berries very appetizing and then drop the seeds, plants pop up everywhere. Poison oak, *Toxicodendron pubescens*, is described as infrequent throughout but locally common in some dry, sandy areas of the Coastal Plain. Poison sumac, *Toxicodendron vernix*, is described as infrequent in the Coastal Plain of Virginia and rare in the Piedmont and mountains. This article will focus on poison ivy.

Poison ivy has three green leaves, inspiring the rule, "leaves of three, let them be." This is a good rule; however, there are plants with leaves of three that are harmless. These include blackberries, raspberries, box elder, and jack-in-the-pulpit. But when you are out in nature and that rule is the only resource you have, play it safe. Another challenge to poison ivy identification is the great variation among plants of the leaf shape. (A plant ID phone app is great to have.) Poison ivy plants can grow close to the ground, but they can also grow as vines along the ground or up trees. In the fall, the leaves will turn bright autumn colors—yellow, orange, and flaming red—making them very attractive and an enticing addition to a floral bouquet. Don't do it!

Poison ivy leaves
Photo: Virginia Tech Department of Forestry

The severe itching resulting from touching poison ivy is caused by an allergic reaction to plant oil that is called urushiol. Urushiol is an oily, sappy, colorless, odorless substance. It is found in all parts of poison ivy—roots, leaves, flowers, berries, stems, and vines. It can stay on surfaces for two years or longer. This oil can get on pets, clothing, garden tools, toys, camping equipment, shoes, and any type of sports gear. The severity of the rash depends on the amount of urushiol that gets onto the skin. Pets need to be washed if they get into any poison ivy areas. While they are fine, if you pet or cuddle with them, you may get a poison ivy reaction. Urushiol is an allergen to many people, but not everyone is allergic to it. People may also become allergic to it after initially being immune, so always treat it with caution. It is estimated that 80 percent of the general population will be allergic to urushiol.

Rashes from poison ivy can range from mild to severe. Mild cases of the poison ivy rash usually fade without treatment in about two weeks. This rash usually appears within 24 to 48 hours after contact. The appearance of the rash will usually start with itchy, red, irritated bumps. But blisters may form that are filled with fluid and these blisters may burst. The itching can be severe, prolonged, and intense. Severe itching and scratching expose the skin to germs on the hands. Scratching the rash does not make it worse, but you can damage the skin and put yourself at risk of bacterial infections from germs under the fingernails.

It is important to wash your skin in soap and cool water as soon as possible after there has been any contact with poison ivy. The sooner the oil is cleansed from the skin, the better. Washing within 30 minutes with cool water and soap is very effective. Remember to clean the area under the nails using a nail brush. "Brown soap" or Fels-Naptha is a very effective soap.

If there is contact, clothing needs to be removed and laundered in cool soapy water to remove the oil. Use a clean, damp towel to wipe down furniture that may have been exposed to the oil.

One myth about the poison ivy rash is that it can be transmitted from person to person. Poison ivy cannot be caught from other people. Nor can it spread from one part of the body to another by breaking the blisters in the rash. What is in the blisters is not urushiol. There has to be contact with the urushiol (e.g., touching shoes or clothing that are coated with urushiol), which will produce the same rash as directly touching the plant. Never burn poison ivy; the smoke carries the urushiol and, when inhaled, can cause lung irritation.

There are two very effective over-the-counter products that you might want to keep on hand. One is labeled an "outdoor skin cleanser" and is most effective when applied within eight hours of exposure; it is excellent at removing urushiol. If a rash does develop, use another product specifically for itching caused by urushiol.

For the most part, in less severe cases, methods of treatment are home remedies such as soaking in a cool-water bath with a half cup of baking soda or an oatmeal-based bath product. Cool, wet compresses on the affected area can be applied for 15 to 30 minutes several times a day. The rash will usually go away in two or three weeks. It is important not to scratch the rash even though the itching is severe and ongoing.

If the problem worsens, there are signs of infection, or you have a temperature of 100 degrees or more, your primary care doctor may have to be consulted.

Poison ivy male flower
Photo courtesy of Teage O'Connor

All itching aside, poison ivy is a very interesting plant. The plants are dioecious, meaning they are either male or female. Taller, more mature plants may produce inconspicuous, hanging clusters of flowers that are greenish white to cream colored. These small flowers bloom from May to July. The flowers are about 3 millimeters in diameter and have five petals. They are fragrant and are visited by insects; bees love them. It is very difficult to distinguish the male plants from the female plants based on the flower. However, it's the female plants that produce the fruits. Fruits on the plant, called a drupe, are greenish and turn tan or grayish-white when they ripen between August and November. Poison

ivy is spread far and wide by birds who eat the berries and drop the seeds. Once a new plant gets established, its extensive perennial root system readily sends up shoots every few inches along their length forming a colony of plants.

When a poison ivy plant germinates near a support such as a tree or fence post, it can become an aggressive woody vine. A mature plant growing up a telephone pole often takes on the look of a tree. It can sprout limbs that extend out 6 to 8 feet from its support, appearing as a limb on a leafy tree.

Poison ivy vine on tree
Photo courtesy of poison-ivy.org

Poison ivy vines can grow as far as 75 feet or more up a tree, and old vines can be up to 3 inches in diameter. The vines are very hairy and when growing up a tree, the bottom portions will have no leaves. So, learn to recognize the vines and don't touch them. Poison ivy is a native vine and has evolved to coexist with our trees, the vines climb straight up the trees and do not harm the trees like English ivy does.

It's Spring Pollen Time

Carol Ivory, Loudoun County Extension Master Gardener

Weeks before the spring flowers are in full bloom, many of us start suffering allergy symptoms-- runny nose and itchy eyes. Tree pollen is the cause of most of this discomfort. This is from trees whose "flowers" are not readily recognized as attractive or even visible. We don't think of oak, maple, or pines as having flowers, but the male flowers on trees produce large quantities of pollen from February through April. Most tree pollen is small and easily carried by the wind. Wind-carried pollen is the only type of tree pollen to which most people are sensitive. People breathe it causing sneezing and runny noses, and it gets in their eyes causing itching and redness.

Here are some trees common to Northern Virginia that may be responsible for your spring allergies and their pollen producing flowers.

Oak Trees

Oak trees have both male and female flowers on the same tree. However, they often only produce fruit when there's another oak of the same species nearby to donate pollen. This is known as self-incompatibility. The female flowers eventually produce acorns.

Pollen-producing male catkins on a white oak
Photo: D. Mullen, Flickr

Female flowers on white oak receive pollen
Photo: VT Dendrology

Maple Trees

Maple trees are unusual. Some trees have only male flowers and others only female flowers, yet others have flowers with both male and female parts on the same flower.

Maples are the earliest bloomers, sometimes starting in February. They attract specialist bees who can fly at temperatures in the 40s. The female flowers eventually produce those little helicopter seeds.

Male maple flowers
Photo: Helen Hamilton, VNPS

Female maple flowers
Photo: Wendy Cutler, Creative Commons

Virginia Pine Trees

Pines produce separate male and female flowers that appear at different locations on the tree.

The female flower already resembles the pine cone it will become at maturity.

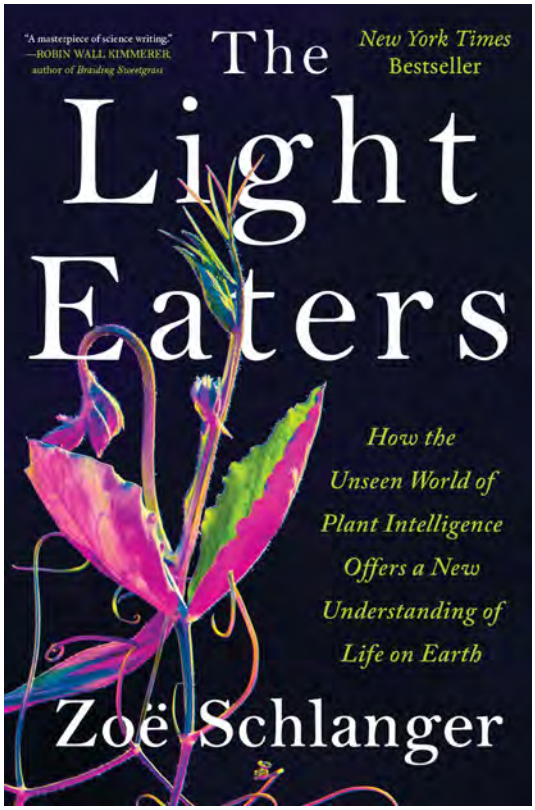
Male pine flowers
Photo: Steve Willson, Blue Jay Barrens

Female pine flowers
Photo: Steve Willson, Blue Jay Barrens

Book Review: The Light Eaters

Pamela McGraw, Loudoun County Extension Master Gardener

For Christmas, a friend gifted me a unique book, *The Light Eaters* by Zoë Schlanger. In brief, it addresses "how the unseen world of plant intelligence offers a new understanding of life on earth." I have found it to be fascinating and think it's likely you will as well!



The Light Eaters by Zoë Schlanger

A certain chapter, "The Scientist and the Chameleon Vine," caught my attention because previously I had a chameleon plant (a terribly invasive, but beautiful plant) and wondered how it fit into this book. Not surprisingly, it was NOT about the chameleon plant I was familiar with, rather a vining plant in the rain forest of South America that had adapted itself to look exactly like the plant that it attaches itself to—leading scientists to consider whether it had "eyes" (I never considered that my plants might be watching ME!).

This may not be the usual book that would catch a gardener's attention, but it would most assuredly snag one's attention after the first several pages. This book about plants may allow you to stretch your thinking by broadening the range of living things for whom consciousness might apply. Its author, Zoë Schlanger, is a journalist who covers climate change. One of the primary themes running through *The Light Eaters* is the scientific community's dispute about how to classify the new evidence concerning what seems to be plant communication and adaptability. Much of this discomfort with calling plant interactions a form of intelligence goes back to the fallacious popular success of a 1973 book called *The Secret Life of Plants*, which Schlanger considers "a mix of real science, flimsy experiments, and unscientific projections." Our language is certainly limited when we try to describe what is going on with plants when they, for example, appear to send messages to all the similar plant species around them,

Schlanger's heightened interest in ferns (and mine as well) really resonated with me as to their nature and how limited I am in understanding them! Also amusing was her account of grasping the statement of researcher Tilo Hennings as they strolled in the Berlin Botanic Garden: "What do you mean, the flower remembers? Where does it store the memory?" While he has not the answer, he has documented that some flowers "were able to remember the time intervals between bumblebee visits and anticipate the next time their pollinator was likely to arrive." How? Well, you must read this book to find out!

Without question, this book will challenge the reader to rethink the role of plants, as well as our own place, in the natural world. It is a most thought-provoking read.

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