

March 2025-Vol.11,No.3



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Upcoming Events

By Cathy Caldwell | March 2025-Vol.11,No.3



[Outdoor Composting Workshop—Turn Your Garbage to Gold](#)



Saturday, March 8 @ 10:00 am - 12:00 pm

Join us to learn how to compost your food waste, yard trimmings, paper, cardboard, and wood waste into nature's preferred food. The outdoor workshop will be taught by Piedmont Master Gardeners and the Bread and Roses Garden Team at the Trinity Church Compost Demonstration Site, 1118 Preston Ave., Charlottesville. The workshop will move indoors if there is inclement weather.

Free

=[Find out more & Register HERE](#)

[Garden Basics: Pollinators for Four Seasons](#)



Saturday, March 15 @ 2:00 pm - 4:00 pm. FREE

Pollinators such as butterflies, bees, and birds are responsible for much of the food we eat. Unfortunately, their populations are declining because of habitat loss and dwindling food supplies. The good news is that you can support pollinators and enjoy them year-round by learning how to provide food and shelter in your garden space—whether your garden area is large or limited to a patio or balcony.

Garden Basics sessions are free and open to all, but space is limited. **Please register below to reserve your place in the class.** Registration will close at 5 p.m. March 14 or when the class is full.

Garden Basics is a partnership with the [Bread and Roses Ministry](#) at Trinity Episcopal Church in Charlottesville.

=[Find out more and Register Here](#)

[At James Monroe's Highland: Prepping and Planning Your Vegetable Garden](#)

Sunday, March 30 @ 1:00 pm - 3:00 pm, James Monroe's Highland, 2050 James Monroe Parkway, Charlottesville, VA, United States



Join the Piedmont Master Gardeners at James Monroe's Highland for a spring gardening workshop on "Prepping and Planning Your Vegetable Garden." Participants will learn the basics of garden planning, including soil testing and seed starting, then apply these skills with a hands-on project in Highland's exhibition garden.

This event is **free** and open to all, but space is limited. **Please register to reserve your place in the class.** Registration closes at 5 p.m. March 29 or when the workshop is full.

=[Register HERE](#)

[Tree Basics Class on Zoom: Select, Plant, and Care for Trees](#) **Tuesday, March 11 from 7:00 to 8:30 p.m.**



FREE ⇒Register [here](#)

Learn how to select a tree for your property that will have the best chance to survive and flourish in the place that you choose for it.

Tree Steward Tim Maywalt will discuss best practices for planting and show you how to care for your newly planted tree and your other landscape trees for the long term.

Coming up in April . . .

Blue Ridge PRISM Spring Quarterly Meeting: Zoom

Wednesday, April 16, 2025 @ 11:30 am - 1:00 pm

⇒[Find out more and Register Here](#)

This is a free online event and includes a question & answer period with the audience. Those who register will receive access to the recording.

Guest Speaker Maddie Bright will discuss **restoration after invasive removal**, addressing questions such as:

- What do I do with the land area after invasive plant removal?
- Should I leave it alone and see what comes up?
- Should I plant specific natives right away?
- What kind of native plants should I choose?
- How do I start the process?

Maddie Bright is the Executive Director for Earth Sangha, a wild plant nursery which leads efforts to propagate native plants directly from local forests and meadows, and also operates a volunteer-based program to propagate local native plants, restore native plant communities, and control invasive plants.

Featured Photo: Backyard compost by Ralph Morini

The Role of Scent in Flowering Plants

By mking | March 2025-Vol.11,No.3



What is scent? Why is it important for plants?

Scent is defined as a distinctive smell which conjures up various olfactory qualities, such as floral, fruity, spicy, minty, or musky. Other less pleasant attributes are putrid, foul, smoky, or burned (but we tend to use the term odor for those smells).

Many of us associate flowering plants with pleasurable fragrances, such as the sweet, delicate scent of lavender, which has natural calming effects. However, the angiosperms all around us have much more important reasons for releasing certain aromas. Plants are [sessile organisms](#), which means they do not have the capacity for self-locomotion, as many animals do. Instead, plants rely on their sense of smell to communicate with other organisms and respond to their environment. In other words, plants can *detect* scents in their surroundings, and they also *produce* scents for advantageous purposes.



Mint has a pleasing, penetrating scent: photo credit: Pixabay



Bee on lavender plant in bloom; photo credit: Pixabay

What is the function of floral scent?

In the horticulture world, scent is a chemical language that plays a fundamental role in communication. Each scent is a tiny but complex organic molecule - a [volatile organic compound](#) or VOC - that easily vaporizes when released from a plant. Once in the atmosphere, the olfactory organs of some insects, bats, and other pollinators can detect the scent. Surprisingly, no two plant species produce the exact same scent. Furthermore, pollinators can discriminate *who's who* among a vast array of plants in their surroundings. It turns out that this interaction is a fascinating story.

The unique scent of any flower serves several purposes. A floral scent may attract potential pollinators to support [plant reproduction](#) and signal or guide certain animals to its food sources at just the right time. For example, plants that rely on pollination by bees or butterflies have relatively sweet scents, and their flowers emit the highest scent levels during the daytime, especially from mature flowers ready to offer ample pollen to visiting insects. Conversely, plants that rely on pollination by moths or bats produce the highest scent levels at night, when those animals are actively seeking food sources.

These species-specific volatile organic compounds allow pollinators to distinguish the various scents of angiosperms. Just as flower shape and color entice certain pollinators to desirable flowering plants based on their own body shape and color preferences, scent attracts insects and other animals to distinct flower species. This enhances their capacity for effective pollen transfer while they are foraging for food resources. Thus, scent can optimize successful [angiosperm reproduction](#).

But not all pollinators are lured by sweet-smelling flowers. Most flies and some beetles prefer foul or putrid odors, such as that released by the [corpse plant](#), *Amorphophallus titanum*, which smells like rotting flesh. This plant lacks showy petals but boasts a large tube-like structure that contains tiny flowers inside. Carrion-feeding flies and beetles are attracted to the widely-dispersed stench of this huge plant. In addition, the corpse plant, or titan arum, uses a biochemical process called [thermogenesis](#) to create heat during flowering. This leads to more rapid release of VOCs and heightened attraction for scavenging pollinators who transfer pollen from male to female flowers when they visit.



Hummingbird hawk moth sipping flower nectar at night; photo credit: Pixabay



Deer seeking preferred plants to eat; photo credit: Pixabay

A flower's scent may also serve as a deterrent to herbivores browsing for their next meal, providing a type of safety shield to help ensure the plant's survival. For example, some herbs such as rosemary, basil, and mint contain essential oils that give off a remarkably strong smell, which serves as a defense mechanism against hungry deer, rabbits, and other four-legged creatures. And the sharp, tangy scent of sage, thyme, garlic, and onions deters aphids, slugs, and squirrels from chomping on those plants, protecting them from destructive herbivorous activity.

Of course, some flowering plants are "generalists," emitting scents



Onions, which have a tangy scent that many animals dislike, sprouting in garden; photo credit: Pixabay

that appeal to a wide variety of pollinators to assist with fertilization. Others, such as the [Soaptree yucca](#) or *Yucca elata*, attract just one kind of insect. In that example, only

the
yucca
moth
respon
ds to
the
scent of
that
plant.

Regardless of the unique smells they produce, most angiosperms time their scent output to coincide with maximum pollen availability in their flowers. Mature flowers release more intense scents than young flowers, but later reduce the quantity and quality of their floral bouquets, thereby directing pollinators to move on to other flowers to increase the efficiency of the reproductive process.



Butterfly sipping nectar on mature flower; photo credit: Pixabay

How do plants produce and control their scents?

Plants use different scents to communicate with other organisms, but they also deliver messages internally, telling their own leaves, roots, stems, and flowers when to grow, develop, and make use of resources. Researchers recently discovered that plants have “transporter” proteins to control the emission of the volatile organic compounds that produce odors and fragrances. Located in cell membranes, these transporters determine the timing and quantity of VOCs to be released within and from a plant.

Symbiosis

Scent’s role in flowering plants includes the development of vital [symbiotic relationships](#) between angiosperms and pollinators. Floral fragrances are special signals that announce, “If you visit my flowers, you will reap desired rewards.”

To illustrate this partnership, insect and bird pollinators benefit from gathering food resources like nectar and pollen from flowering plants while simultaneously gathering materials they can use for building nests or hives, such as [propolis](#). In turn, the flowering plant benefits from the abundant pollen transfer which ensures angiosperm fertilization and reproduction.



Honeybees collect propolis to construct and repair their hives: photo credit: Pixabay

Plant Selection for a Fragrance Garden

If you are intrigued by floral aromas, consider planning a fragrance garden. Your sense of smell is intricately connected to your emotions, and certain scents can evoke pleasurable

memories. Selecting plants based on their olfactory appeal, as well as their visual interest (color, texture, foliage, size, shape, bloom time), can elevate the overall impact of your garden design.



Sweet-smelling lavender in fragrance garden; photo credit: Pixabay

Keep in mind that site location and conditions will determine optimal choices for your new garden spot, but if you decide to focus on fragrance, find a convenient place just beyond your doorstep where you can readily enjoy the aromatic scents. For easy reference, here are some excellent sources of information:

[Scent-sational plants for a fragrance garden](#)

[Fragrant Native Plants | Virginia, USA | Plant NOVA Natives](#)

[Fragrant Native Plants for the Mid-Atlantic Region](#)

[5 Fragrant Plants to Make Your Garden Smell Amazing](#)

Resources

[Fragrant plants](#)

[Plant strategies and scent](#)

[Why do plants smell?](#)

[How plants sense scents](#)

[Why flowers have scents](#)

[The fragrance of plants](#)

[Aromatic world of flowers](#)

[Why Do Pollinators Visit Flowers?](#)

[Propolis and Bee Health](#)

Invasives Watch

By Cathy Caldwell | March 2025-Vol.11,No.3



Now is the time to remove garlic mustard (*Alliaria petiolata*) -- it's easy to pull up, and it hasn't had a chance to set seed. Read more about this invasive and how to eliminate it in this month's Tasks & Tips article, [The Ornamental Garden in March](#).

Other invasives to hand=pull this month:



Asiatic bittersweet in March. Photo: Richard Gardner, Bugwood.org

[Asiatic or Oriental Bittersweet](#) (*Celastrus orbiculatus*):

Hand pull small vines in spring when the soil is moist. Be sure to remove the crown and all large roots or vigorous new growth will occur. Low bushy vines or resprouted vines can be killed with a foliar herbicide spray after leaves appear in spring through fall. Be mindful of native plants growing in the area. It is best not to spray large vines.



Garlic mustard
Photo: Cathy Caldwell

Mile-a-Minute (*Persicaria perfoliata*) is an annual vine and prolific seeder that can grow 6" a day and reach heights of 25' in a single season. Tiny, recurved, needle-sharp barbs arm its leaves and stems. **Mile-a-minute can be manually pulled before it sets seed but wear gloves to protect against the barbs.** Foliar sprays are effective but also kill whatever is underneath the vine. A **preemergent herbicide is called for in large areas of infestation.** The herbicide should be applied to the soil **in early to mid-March before seeds germinate in June.** Do not use preemergent herbicides near wetlands, streams, etc. because it harms aquatic life.



Mile-a-minute vine, Asiatic tearthumb (Persicaria perfoliata). Photo: Britt Slattery, US Fish & Wildlife Service, Bugwood.org

To learn lots more about controlling invasive plants, check out the Blue Ridge PRISM's Invasive Plant Workshop and their Quarterly Meeting (coming up in April):

Invasive Plant Workshop hosted by [Blue Ridge PRISM](#)

Sunday, March 30 @ 11:00 am - 1:00 pm

Build your fundamental knowledge of invasive plants! Join the Blue Ridge Partnership for Regional Invasive Species Management (PRISM) for a hands-on learning experience where you'll discover how to identify and manage invasive plant species in your area.

This workshop will take place on Sunday, Mar 30, 2025 at 11:00 am at Mountain Light Retreat in Crozet, Virginia. You'll learn practical skills that you can apply in your own backyard.

=[Register Here](#)

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Maddie Bright is the Executive Director for Earth Sangha, a wild plant nursery which leads efforts to propagate native plants directly from local forests and meadows, and also operates a volunteer-based program to propagate local native plants, restore native plant communities, and control invasive plants. Maddie has worked closely with ecologists, botanists, and park managers across the Northern Virginia region on plant conservation and ecological restoration projects and serves on the steering committee for the National Capitol Partnership for Regional Invasive Species Management.

Featured Photo: Asiatic bittersweet climbs a tree. Photo: Cathy Caldwell

SOURCES:

["Invasive Plant Control Calendar,"](#) The Garden Shed (May 2022)

[Blue Ridge PRISM](#) (Partnership for Regional Invasive Species Management)

Lichens

By Ralph Morini | March 2025-Vol.11,No.3



After speaking with friends, neighbors and fellow gardeners, I've concluded that most people understand that these growths that appear on tree bark, rocks and other surfaces are called lichens (pronounced like-ens), but know little about them. This article provides a brief overview of what they are and how they impact the trees and other surfaces they grow on and the environment more broadly.

What are lichens?

Lichens grow out of a supportive relationship between certain fungi and photosynthetic algae or sometimes cyanobacteria. Their relationship is called symbiotic or mutualistic, meaning that they work together for mutual survival and reproduction. The fungi form the outermost visual element, so are what we see most easily. They provide physical support and protection and draw moisture and minerals from the air, which they share with their algal and bacterial partners. The algae and bacteria can photosynthesize, which the fungi can't do, providing needed nutrition to the fungi. Recent studies have located a third potential partner, yeasts, that enable the lichen to produce acids that help defend against unwanted microbes. Their supportive partnership enables lichens to survive and thrive in a range of habitats. Lichens were among the first land-dwelling organisms, suggesting that the communal action between fungi and algae were important players in life making the transition from water to land.



Foliose lichen on tree branch. Photo: R Morini



Crustose lichen on tree. Photo: R Morini

While many people's first reaction is to think that lichens are harmful to their hosts, this is not the case. As noted, lichens produce their own food and do no harm to trees. Beyond trees, their supporting hosts can include



Crustose lichen on stone. Photo: R Morini

rocks and
moist soil
and brick
faces in
addition to
both healthy
and
unhealthy
trees. While
lichens on
stone do
extract
minerals,
the result is
to add
nutrients to
soil via wind
and rain,
adding to
nearby soil
health.
Fungi are
generally
considered
the
dominant
organism,
mainly
because
they have
the most
impact on
appearance.

Published estimates indicate that the number of different known lichen species vary from about 13,000 to 30,000 with many more not yet identified. Their greatest diversity is found in extreme sites like the arctic and antarctic, deserts, grasslands and temperate and tropical forests. Most fit into one of four families based on body physical form:

- Crustose: appear to be painted onto their support surface and can be crusty or scale-like
- Foliose: have a leaf-like surface (photo above)
- Fruticose: can be tube or hairlike/multi-filamentous
- Squamulose: display small often overlapping scales.



Fruticose lichen. Photo: Howard F. Schwartz, Colorado State University, Bugwood.org

Lichens can live on many different surfaces as long as the surface is stable and well lit. They survive in all climates and altitudes. They need undisturbed surfaces and clean air. They grow on mountain cliffs, boulder fields and deserts. They don't grow in aquatic or marine environments, except on barnacles. Most hosts are rocks, bark, leaves and soil, but they can also grow on glass, metal, plastic and cloth. They grow slowly but can live for centuries if their environment is stable. They tend to grow and spread more commonly on older trees that grow more slowly than younger ones. While individual lichens are built around a single fungal type, they can contain multiple algal species.

Reproduction

Lichens can reproduce in several ways: sexual, asexual and vegetative. Fungi reproduce sexually and spread through spores. They don't form a new lichen until crossing paths with the right algae or cyanobacteria. Algal and fungal cells sometimes join and reproduce asexually. Vegetative reproduction occurs when components of a lichen break away from the parent and form a new lichen body. This versatility likely accounts for lichens' ability to thrive so abundantly and broadly, despite their slow growing characteristics.



Squamulose lichen. Photo: R Morini

Lichens' Benefits

While they are quiet contributors to environmental sustainability, lichens provide a number of benefits:

- they absorb nutrition and chemicals from the sun and air and are often analyzed to assess pollution and air quality
- bind and help build soil
- fix atmospheric nitrogen
- provide winter food for caribou, other animals and invertebrates
- some species are consumed as food and drink flavorings and additives
- fruticose lichens are used as fiber for clothing
- their many colors are used as fabric dyes
- they have antibiotic properties that have been used historically as wound dressings, tonics and as a laxative.
- they are also thought by some to be a source for medication and agricultural chemical development.



Lichens and separate fungi on dead tree branch. Photo: R Morini

- while lichen do no harm to their hosts, abundant presence on damaged or dead wood can indicate disease issues caused by other fungi, bacteria, viruses or insects and may require corrective action by the tree owner or tree care specialist.

Lichen also have relationships with certain animal and insect life. For example:

- 50 bird species, including ruby throated hummingbirds, use lichens as nest materials
- Lichens are the only foods eaten by [painted lichen moth caterpillars](#)
- [Green Lleuconycta Moths](#), whose appearance resembles lichen, use them to hide from predators
- The [Giant Lichen Orbweaver](#) (spider) camouflages itself on the lichen surface when hunting or hiding from predators.

Takeaways

Lichens, who knew? They live on every land body in the world. There are thousands of different species, with a handful of structures that grow on a variety of surfaces that have access to moisture and light. They do no harm to their hosts and in fact make a range of contributions to the environment. The communal

relationships that are established between fungi, algae and/or cyanobacteria and potentially yeasts, are unique and inspirational. If only humans cooperated as willingly and effectively. Beyond all this, since I started investigating them and paying attention to their widespread presence, I can't take a walk in the woods without being mesmerized by them. I find lichens to be truly amazing organisms and hope that readers will have a similar interest and experience.

Featured photo: Squamulose lichen. Photo: R Morini

Sources:

- [Lichen in the Garden](#), Penn State Extension
- [Lichen, Algae, and Moss on Trees | University of Maryland Extension](#),
- [FS1205: Tree-Dwelling Lichens \(Rutgers NJAES\)](#), New Jersey Agricultural Experiment Station
- [Lichens - Wisconsin Horticulture](#), U of Wisconsin Madison Extension.
- [Lichens | Ohioline](#), Ohio State University Extension
- [Ten Things You Might Not Know About Lichens, But Wish You Did | Biodiversity Knowledge Integration Center](#), Arizona State University.
- <https://www.marylandbiodiversity.com/media/viewThumbnails.php?category=Lichens&species=4843&showAll=1> (photos) Maryland Biodiversity Integration Center.
- [Search Images - Forestry Images](#) (lichen photos), Forestry Images.org
- [Yeast emerges as hidden third partner in lichen symbiosis - Purdue University News](#)

The Edible Garden in March

By Ralph Morini | March 2025-Vol.11,No.3



March is the beginning of our outdoor gardening season. If you started cool weather crops indoors in February, you can begin transplanting into the outdoor garden in the middle of March. Alternatively, garden centers will begin selling transplants of cabbage family crops and lettuces to be planted on the same schedule. Lots of plants can be direct seeded into the ground as well.

Fruit growers should aim to get pruning done early in the month before serious new growth starts. It is also time to fertilize and plant bramble fruits and blueberries.

Let's review some tips for getting things going.

Manage Your Soil for Best Growing Results



Soil testing. Photo: VCE

If you haven't had a **soil test** for three years or more, consider a new test. They are a valuable tool for maintaining optimum soil fertility and pH levels. Soil sampling kits and instructions are available at your local Virginia Cooperative Extension office. In Charlottesville/Albemarle, test kits are available at the Albemarle County Extension Office, second floor, off 5th Street Extended or Stagecoach Road. Be sure to take boxes and the appropriate instruction sheet for home gardeners versus commercial growers. Samples should be mailed with payment directly to the Virginia Tech lab, and results will be issued directly to the sender. Call the Extension office at 434-872-4580 with questions. For additional information on soil testing, check out VCE publication 452-129: [Soil Sampling for the Home Garden](#).



Compost batch. Photo: R Morini

Regardless of your soil's condition, adding organic matter will improve it, and fully decomposed compost is a great addition. It improves soil structure and water infiltration, while absorbing and holding moisture longer, provides a broader array of nutrients than are available from chemical fertilizers and supports soil life that make the nutrients plant accessible. Compost can be purchased but can also be made at home using yard

and organic kitchen wastes. Instructions for home composting can be found in the VCE publication [Making Compost from Yard Waste](#). If you start a compost batch now, it can be ready for planting in 4 to 6 months depending on content and care.

If you have a heavy clay soil in your garden and aren't sure how to best manage it, take a look at the Garden Shed article [Gardening in Clay](#). Surprise: the secret is adding decomposed organic matter (i.e. compost)!

When adding compost to beds, spread a couple of inches on the surface. For new beds to be planted this spring, it can be tilled in. For established beds, we recommend scratching it into the soil surface and letting rain and soil organisms carry it deeper.



A broadfork at work, from the video, "The broadfork - Jean-Martin Fortier - The Market Gardener's Toolkit,"

Rather than tilling, insert a broadfork or digging fork as deeply into the bed as possible and rock it back and forth to loosen and aerate the soil without destroying the soil structure. Work your way across the beds, advancing several inches with each fork insertion. It is also an effective way to integrate compost below the soil surface without upsetting soil structure.



Occultation. Photo: R Morini

Weed Management

Best practices for preparing soil for planting now emphasize minimum tilling. Tilling breaks up soil structure, harming soil life populations. The aeration increases carbon dioxide emissions in the short term and pulverizing soil leads to increased compaction over the course of the growing season. The biggest issue no-till raises is probably how to manage weeds. Hopefully, most home gardeners are not using glyphosate products to kill garden weeds. Old time mechanical methods of weed hoeing and pulling are great but a lot of work. Organic practices that work are called **occultation or solarization**. Occultation involves covering beds for 4 weeks or longer with a black tarp, secured around its edges. Occultation denies light, smothering weeds and speeding decomposition of trimmed cover crop remains.

Solarization via a clear plastic sheet allows light but gets hotter than occultation which helps kill weed roots. Growers report season-long weed-reduction benefits. When the tarp is removed, residue can be left as mulch or composted. The post [Black Covers Can Put Weeds to Bed . . . for Good](#) from the Maryland Extension provides occultation explanation and guidance. Solarization guidelines are presented in the article [Using the Sun to Kill Weeds and Prepare Garden Plots](#) from the University of Minnesota Extension.

Cover Crop Removal

If you have a cover crop growing, the best time to remove it is after plants flower but before they go to seed. Use a string trimmer to cut it as close to the ground as possible. While residue and plant crowns can be removed and composted, a more common practice, when practical, is to leave the residue on the ground to act as a mulch and organic matter addition. Aerate the soil with a broadfork to reduce compaction and smooth the bed with a rake if needed for seed bed preparation.

It's Time to Plant

As noted in past articles, the USDA has changed Hardiness Zone boundaries based on climate change-driven warming temperatures. For our local area of Charlottesville and Albemarle County Virginia, our zone changes from 7a to 7b. The net effect is that our average last frost changes from April 15-25th to April 5-15th. This moves suggested early planting times about 10 days earlier. [Virginia's Home Garden Vegetable Planting Guide](#) from the VA Cooperative Extension hasn't changed its map yet, but there is a recommended planting/harvesting chart for Hardiness Zone 7b that USDA suggests. The new guidelines make late February to early March the times for outdoor seeding of cool weather vegetables, including beets, carrots, kale, collards, mustard greens, lettuces, peas, radishes, spinach, and turnips. Home-started or purchased transplants that can be planted in the garden this month include broccoli, cabbage, cauliflower, leeks, onion sets, and new asparagus plantings.



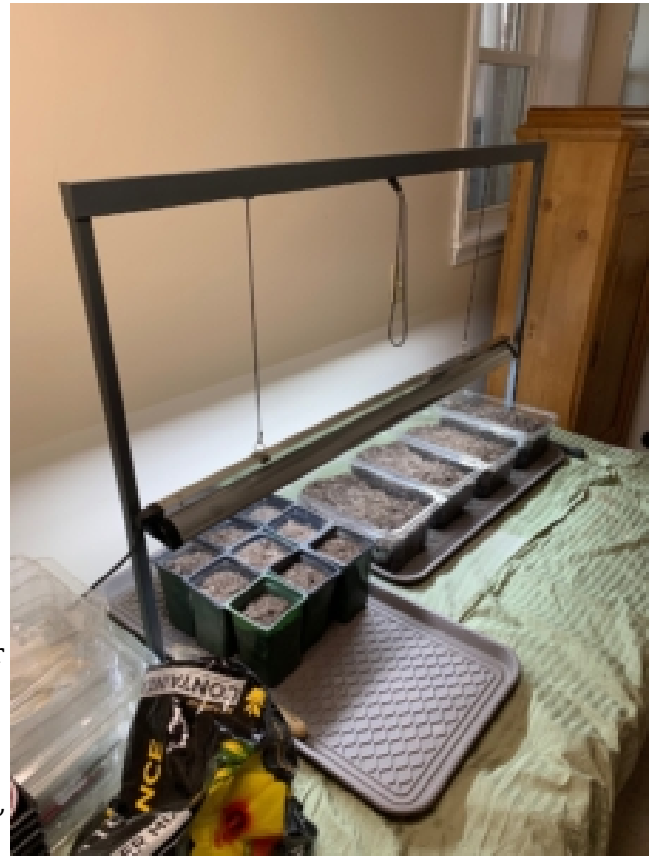
Soil thermometer. Photo: R Morini

Soil temperature is an important factor in successful outdoor seed germination. Soil thermometers are readily available at prices starting at about \$15. Consider stem length if you purchase one. For soil, home gardeners only need a short stem; 4 inches will suffice for seed germination. However, if you get one with a stem of 12 inches or more it can also be useful to monitor compost temperature, where batches are typically 3 or 4 feet tall and the thermometer needs to probe deeply to get a good reading.

Cool weather crops like spinach and lettuce will germinate at temperatures in the 45-50° range, tomatoes need 60-65° soil, and squash and melons need about 70°. A complete guide is available in the Oregon State Extension publication [Soil Temperature Conditions for Vegetable Seed Germination](#).

If you started seeds indoors in February and are moving them to the garden in March, remember to harden them off by putting them outside during the day for progressively longer periods over one to two weeks, once daytime temperatures are above 50°F.

As you move early transplants outside, replace them with warm weather crops that should be transplanted after our last frost. For example, tomato seeds planted indoors



Simple seed starting setup. Photo: R Morini

in early
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March
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to May
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You can find lots of good advice for seed starting and transplanting in the VCE publication [Plant Propagation from Seed](#) and *The Garden Shed* article [How to Start Your Garden Seeds](#).

Fruit Growing

If you are a fruit grower, fertilize fruit trees 3-4 weeks before active growth begins. Scatter fertilizer evenly under the tree, starting about 2 feet from the trunk and extending just beyond the drip line or end of the furthest branches. A soil test should be performed prior to applying fertilizer. For additional information on fruit trees, visit [VCE Publication 426-841](#), “Tree Fruit in the Home Garden.”

Fruit trees are pruned before growth starts in late winter or early spring to remove dead and diseased branches, remove vertical shoots, open the structure for light penetration, and to shape the tree. Further pruning can be done in summer to “dwarf” a tree, if desirable. Pruning allows the tree to direct nutrients to branches that will bear high quality fruit. The article [Pruning Fruit Trees](#) from the University of Nebraska Extension is a helpful resource. For more detail on the effects of pruning try [VCE Publication 422-025](#), “Physiology of Pruning Fruit Trees.”

Bramble fruits such as raspberries and blackberries may be planted in early-to-late March. Plant in moist, well-drained soil containing large amounts of humus or organic matter. For weed control, mulch around newly-planted brambles with an organic mulch. For additional information on how to grow bramble fruit, review VCE Publication [“Small Fruit in the Home Garden”](#).

Now is the time to plant **blueberry** bushes. Different varieties of blueberries have different requirements for winter “chilling hours” — i.e., the number of days with temperatures between 35° and 45°F. They also require very acidic soil for best growth. It makes sense to make careful choices when acquiring plants. *The Garden Shed* article [Blueberry Cultivation in the Home Garden](#) explains further.

If you have established blueberry plantings, the publication [Pruning Blueberries](#) from the Maryland Extension offers excellent pruning advice with illustrations.

I hope this information provides guidance and motivation to help you get things going. It’s great to be out in the garden again. I hope to see you next month at *The Garden Shed*.

Resources:

Featured Photo: Backyard garden in March. Photo: R Morini

“Virginia’s Home Garden Vegetable Planting Guide and Recommended Planting Dates,” Va. Coop. Ext. Publication 426-331, <http://pubs.ext.vt.edu/426/426-331/426-331.html>

“Tree Fruit in the Home Garden,” VA Coop. Ext, Publication 426-841, https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/426/426-841/426-841_pdf.pdf

“Soil Temperature for Vegetable Seed Germination,” Oregon State Extension, [Soil Temperature Conditions for Vegetable Seed Germination | OSU Extension Service \(oregonstate.edu\)](#)

Collards

By Chris Stroupe | March 2025-Vol.11,No.3



Greens. [Picture: Kirk K. CC BY-NC-ND 2.0](#)



Collard leaves' diversity of color and form. [Photo: USDA](#) (public domain).

Collards are a great crop to grow in Virginia - or anywhere, really. They're cold- and heat-tolerant, nutritious, quick-growing - 75 days from seed to maturity - and most importantly, tasty. Collards were bred from wild cabbages in the eastern Mediterranean region, where Greeks and Romans feasted on them in ancient times. Enslaved Africans introduced collards to the Americas, growing them for their own consumption in Latin America and the antebellum South. The taste for collards spread across the United States in the mid-20th century Great Migration, as African-Americans fled Jim Crow and found industrial jobs in northern cities. Today, collards are a staple food in [southern](#) and [eastern](#) Europe, [Kashmir](#), [east](#) and [west](#) Africa, [Brazil](#), and all over the [United States](#).



Georgia Southern collards. [Photo: James Good](#). [CC BY-NC-ND 2.0](#)

Varieties

Collards are the same species as cabbage, *Brassica oleracea*. Collards belong to the "Acephela" group, i.e. "headless," within *B. oleracea*. By contrast, traditional cabbages belong to the "Capitata" group.

North Carolina State suggests a few [collard varieties](#) that do well in home gardens:

- Blue Max: Compact and vigorous
- Butter: Cabbage-like leaves
- Champion: Resistant to bolting in hot weather
- Georgia Southern: Heirloom variety. Good heat and cold resistance.
- Morris Heading: Another heirloom, also called Carolina Heading. Dark green leaves and cabbage-like flavor.
- Top Bunch: Early harvest.
- Vates: Blue-green, slightly savoyed (wrinkled) leaves

Seed catalogs and heirloom seed collectors have detailed information about the characteristics of specific collard varieties, including cold tolerance - some varieties are hardy to 0°F - and bolt resistance in hot weather, size, flavor, thickness of leaves, and time to maturity.



A broadfork at work, from the video, "[The broadfork - Jean-Martin Fortier - The Market Gardener's Toolkit](#)."

Bed prep

Collards grow well in many soil types, from sandy coastal soil to heavy Piedmont clay. For best results, amend your soil with plenty of organic matter. When starting new garden beds, dig 4 inches of compost into the top 12 inches of soil. For established beds, spread 2 inches of compost and work it gently into the soil with a rake or broadfork. We recommend [no-till methods](#) to preserve soil structure and reduce erosion and compaction.

As a leafy green, collards also benefit from added nitrogen. Oklahoma State University (OSU) [recommends](#) adding 70 lb. nitrogen per acre before planting. This translates to 6 oz. urea (46-0-0) or 21 oz. blood meal (roughly 12-0-0) per 100 square feet. OSU then recommends side-dressing three weeks after emergence (or transplanting) with 4 oz. urea or 15 oz. blood meal per 100 square feet.

Finally, collards grow best near neutral soil pH, 6.0 to 8.0. A [soil test](#) will measure pH and tell you how to make any needed adjustments. A soil test will also measure nutrients like potassium and phosphorus and recommend appropriate amendments. Our [Horticultural Help Desks](#) can help interpret the recommendations that come with soil test results.

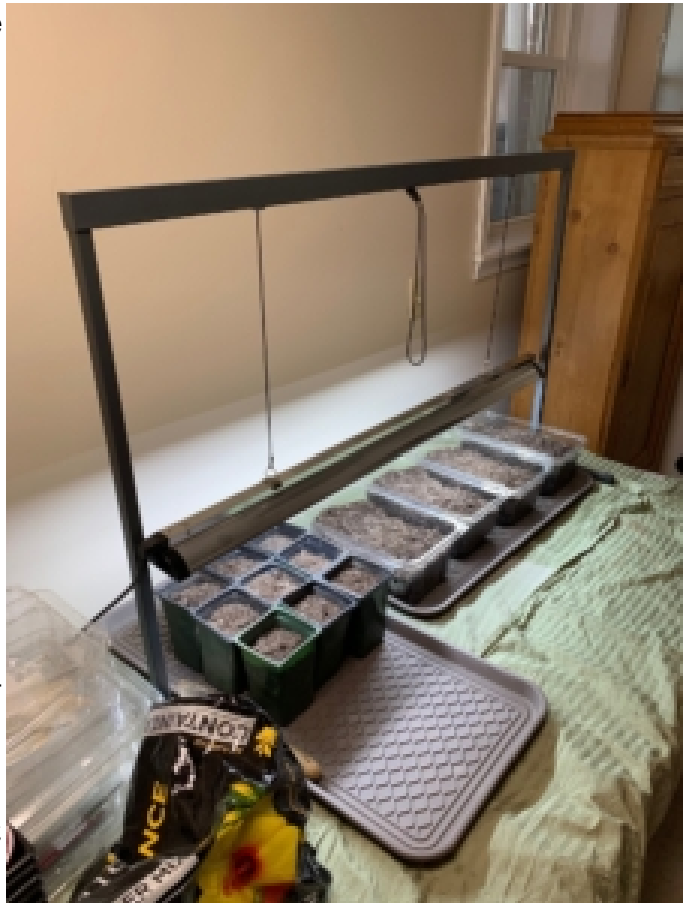
Starting

Collards perform well when seeded directly into the garden, as well as when started indoors and transplanted to outdoor settings later.

Indoors This is the best option for a spring crop, since seeds germinate slowly in cold soil and might rot before germinating. Aim to transplant at the average date of last frost. In Charlottesville, which is now in USDA hardiness zone 7b, this is between April 5th and 15th. Start seeds 4-6 weeks before transplanting. Harden seedlings off by placing them outdoors for increasing amounts of time, starting about a week before planting.

Outdoors This is a good option for a fall crop planted in late summer. Consult the Virginia Cooperative Extension's [Home Garden Planting Guide](#) for recommended planting dates in your hardiness zone. Charlottesville is now in zone 7b. (The map in that document has not been updated, but the planting dates for the various hardiness zones are unchanged.)

Before seeding, rake the bed well to ensure good seed-soil contact. Plant seeds ¼ to ½ inch deep, 2 inches apart in rows 18 to 30 inches apart. Water well and keep the soil moist, particularly in hot weather. After seedlings are established, thin them to 12 inches apart for full-size plants, or 4 inches for “baby” plants that can be eaten raw.



Simple indoor seed starting. Photo: R Morini



Collards and row covers, a great combination. [Picture: Washington State Dept. of Agriculture. CC BY-NC 2.0](#)

Cultivation

Collards are heavy feeders. Side-dress with nitrogen to ensure big, green leaves. As mentioned above, OSU suggests adding 4 oz. urea or 15 oz. blood meal per 100 square feet three weeks after emergence or transplanting.

Collards require fairly moist soil; otherwise, they will become bitter. Aim to keep the top 6 inches of soil moist. They need about 1 inch of water per week, whether from rain or irrigation, but the exact amount will depend on local temperature and soil type. Mulch plants with grass clippings or weed-free straw to conserve soil moisture.

Collards are cold-tolerant, and with a little protection can stay alive all winter. For more information about row covers - which provide protection from temperature and wind - check out Piedmont Master Gardener

Ralph Morini's [article](#).

Pests and diseases

Pests



Cabbage white worm damage. [Picture: Whitney Cranshaw, Colorado State University, Bugwood.org. CC BY 3.0](#)

- Caterpillars (sometimes called “worms”) are moth or butterfly larvae that infest collard leaves: diamondback moths, cabbage loopers, various cabbageworms, armyworms, and cabbage webworms. They damage collards by chewing on leaves. The damage can range from a few small holes to complete skeletonization.
- Aphids feed on collards by piercing the waxy cuticle coating the leaves, then sucking sap from the plant. Aphids reproduce very quickly, and serious infestations can appear seemingly overnight. Their damage appears as wilted and deformed leaves and stems.
- Whiteflies, like aphids, feed by piercing and sucking. They are notorious for spreading plant viruses, so the first sign of an infestation might be a viral



Cabbage aphid infestation; note warped leaves in the center of the plant. [Picture: Whitney Cranshaw, Colorado State University, Bugwood.org. CC BY 3.0](#)

disease (see below).

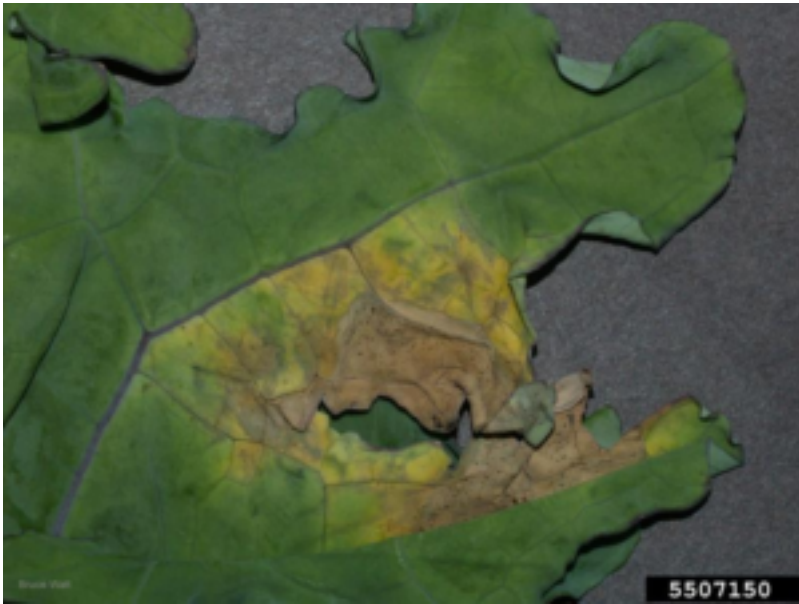
- Harlequin bugs are similar in form to stinkbugs, but they're reddish orange with black markings. They are also piercing/sucking feeders. Their damage appears as white patches on leaves.

Prevention is the best way to avoid insect damage. Clean up all weeds and plant debris at the end of the growing season to deny insects a place to spend the winter. Rotate crops to keep plants away from any pests that do manage to over-winter. This is surprisingly effective even in a small garden! Examine your plants often, particularly on the undersides of leaves, to look for eggs, larvae, and adult insects. Lightweight row covers can keep insects away from plants - but they can also provide a safe habitat where pests can thrive.

It might be necessary to treat severe infestations with chemical insecticides, but this should be a last resort. For more information about insecticides, including organic options, consult the Virginia Cooperative Extension's [Pest Management Guide](#). Always follow the instructions on the label and use personal protective gear like gloves and eye protection. Also take great care to avoid harming pollinators: don't spray flowering plants, and spray in the evening when bees are less likely to be present.



Downy mildew on cabbage leaves. [Picture: Penn State Department of Plant Pathology & Environmental Microbiology Archives](#), Penn State University, [Bugwood.org](#). [CC BY-NC 3.0](#)



Black rot. Picture:
Bruce Watt, University of Maine, Bugwood.org



Leaf curl virus infected plants. Picture: B. Langston, University of Georgia, Bugwood.org

Diseases

- **Damping-off** is caused by *Pythium* mold. Seeds and seedlings rot and either fail to germinate or decay shortly after germination. Avoid by not planting in cold, poorly drained soil. Before starting seeds indoors, thoroughly wash all pots, trays, and tools with hot soapy water. Always use potting or seed-starting mix, never soil, to start seeds.
- **Downy mildew** occurs in humid environments. The lower surface of leaves develops a gray, fuzzy film, then the upper surface turns brown and dies. The best way to avoid downy mildew is to keep leaves dry. Space plants appropriately, as described above, to allow air movement. When irrigating, direct water towards the base of plants, not the leaves.
- **Alternaria leaf spot** causes dry brown spots with concentric rings on leaves. Eventually, leaves turn yellow and die. *Alternaria* fungi are soil-borne, so avoid splashing soil onto leaves when irrigating. Mulch helps prevent soil splashing. Crop rotation can deny the fungus a host. *Alternaria* grow well in hot, humid environments, so keep leaves dry as described above.
- **Black rot** is a bacterial disease. Yellow, triangular regions appear at the edges of leaves, then grow until the entire leaf is affected. Prevention is critical because no known chemical can control black rot. Keep leaves dry, rotate crops, and clean up plant debris, especially from
- **Viruses** are usually spread by insects. There are no antiviral drugs for plants, so prevent viral diseases by controlling insect infestations as described above. Viral infections cause leaves to appear patchy, mottled (see picture), and distorted. Some weeds are hosts for viruses, so weed control can also help with prevention.

It's almost impossible to cure plants of severe disease; if plants are infected, remove them immediately. Dispose by burying or burning, not composting. It might be possible to use chemical treatments to prevent diseases from spreading to nearby plants. Consult the [Pest Management Guide](#) for details. Proper diagnosis is essential to choosing the right preventative treatment.

Heirloom Collard Project

Collards are a worldwide crop, but they have a prominent place in American culture because of their historical connection to [Black agricultural and culinary history](#). The [Heirloom Collard Project](#), founded by famed Virginia gardener and educator [Ira Wallace](#), aims to increase awareness of the history of collards in two ways: first, by sharing [stories](#) of collards' importance to American culture, and second, by sharing of historical collard varieties, in a collaboration with the [Seed Savers Exchange](#). The project is always looking for new growers to produce more seeds of in-demand varieties, so if you like saving seeds and are interested in American food history, considering [getting involved](#)!

References and further reading

featured image: [Pexels.com](#)

[Black Foodways and Cuisine](#) National Museum of African American History and Culture

[Brassica oleracea \(Collards Group\)](#) North Carolina State Extension

[Cabbage, Broccoli, and Other Cole Crop Diseases](#) Clemson Cooperative Extension

[Cabbage, Broccoli, and Other Cole Crop Insect Pests](#) Clemson Cooperative Extension

[Collard Greens](#) North Carolina State Extension

[Cool Season Greens Production](#) Oklahoma State University Extension

[Growing Collards and Kale in Home Gardens](#) University of Minnesota Extension

[How to Grow Kale and Collards](#) Michigan State University Extension

[Pest Management Guide - Home Grounds and Animals](#) Virginia Cooperative Extension

[Virginia's Home Garden Vegetable Planting Guide](#) Virginia Cooperative Extension

The Ornamental Garden in March

By Cathy Caldwell | March 2025-Vol.11,No.3



March marks the beginning of spring, but it can be a fickle month! The weather can be mild and pleasant one day and then cold and blustery the next. Until the weather becomes consistently milder, be patient and use this time to organize your thoughts on what you want to accomplish in your ornamental garden this spring. Start by checking the **Monthly Gardening Tips** section now located under Gardening Resources on the main page of the PMG website: pmgarchives.com/Gardening_Resources/Monthly_Gardening_Tips/#March. You just might find other useful information in the Gardening Resources section, too.

The soil in March is generally too cold and wet to work in. Just walking on soggy soil compresses the soil aggregates and particles. The resulting compaction affects drainage and rain infiltration and prevents plant roots from penetrating very deeply. Soil compaction also reduces the amount of open pore spaces, which makes it difficult for plant roots to absorb oxygen and water. Here's how to tell whether your soil is dry enough to work in: Dig up a small amount of soil and squeeze it in your hand. If the soil stays in a solid muddy ball and does not fall apart, it's too wet to work in. If the soil crumbles through your fingers when you squeeze it, then it's ready to be worked.

Once the soil in ornamental garden beds is dry enough to walk on, remove any weeds that have overwintered in your flower beds. It's important to tackle weeds early and stay on top of this task throughout the growing season. For help with identifying weeds, check out Virginia Tech's [Weed ID](#) website or the University of Missouri [Weed ID Guide](#).

Don't be too eager to cut back last year's perennial foliage and stems. If possible, hold off on this task until daytime temperatures are consistently above 50°F for at least seven consecutive days. Many beneficial insect species such as small native bees, syrphid flies, and lacewings overwinter in the debris and are merely waiting for warmer weather conditions before emerging. By waiting for the right conditions, you give these insects the chance to emerge safely.



Photo: Cathy Caldwell

Redefine flower bed edges as needed to give them a neat, crisp appearance. A flat-edged spade is very useful for this task.

Direct sow seeds for hardy annuals such as larkspur, sweet peas, and love-in-a-mist. These annual species germinate best when soil temperatures are between 55°F and 65°F, which means they can be planted weeks before the last frost date in spring. On the other hand, **tender annuals** such as begonia, cosmos, zinnia, and vinca can't handle cooler soil and air temperatures and should be planted after the last frost date in spring. As a reminder, the last frost date for the Charlottesville/Albemarle County area of Virginia is around April 15 to April 25 on average. To learn more about hardy annuals, see the University of Missouri Extension's publication on [Flowering Annuals](#).

Assess your emerging perennials to identify any that need to be divided. Guidelines vary on how often to divide perennials but, on average, many of them benefit from being divided about every three to five years. As a general rule, divide spring and early summer-flowering plants in the late summer or fall and fall-blooming plants in the spring. And here's another tip: Hostas may be divided just as they emerge in early spring to minimize damage to the leaves. For more insight into how and when to divide perennials, see *Garden Shed* article on [Guidelines for Dividing Perennials](#).

Now is a good time to have the soil tested in your ornamental garden beds to determine the pH and to analyze fertility levels. If it's been a while since you've had your garden soil tested or if you've never had a soil test done before, check out the Virginia Cooperative Extension's (VCE) website, which is <http://www.ext.vt.edu> and view Publication No. 452-129, [Soil Sampling for the Home Gardener](#). Don't guess! Follow the soil test recommendations for incorporating any amendments into the soil.

Top dress flower beds with one inch of compost to improve the soil structure, add nutrients, and enhance the soil's capacity for holding moisture.

Now is a good time to plant **bare root, dormant roses**. Soak the bare root rose in a bucket of water for at least eight or more hours to rehydrate the roots. Choose a sunny, well-drained location, dig the planting hole wide enough and deep enough to easily accommodate the roots and set the plant so that the graft union is at soil level. Space roses far enough apart to allow good air circulation.

Prune established rose bushes now to improve their health and structure. Make sure your pruners are sharp and clean. Prune canes to an outward-pointing bud and make each cut at a 45° angle just slightly

above the bud. Remove any weak or unattractive canes. Cut any damaged wood back about one inch into healthy wood. Cut any dead canes down to the ground level. If any branches rub together, choose the healthier of the two and remove the other one. If you are pruning a grafted rose, check for suckers below the graft union and remove them. Proper pruning facilitates better air circulation, also allows more sun into the middle of the plant, and results in a healthier, more attractive plant.

Prune subshrubs to shape them or remove dead terminal growth. By definition, a subshrub is a dwarf or low growing shrub or perennial plant that has woody stems at the base but new soft, green terminal growth that typically dies back each year. Some examples of subshrubs include the following:

- Blue Mist Shrub (*Caryopteris*) - Cut back top growth by about a third to neaten the shrub and encourage new growth. To rejuvenate the shrub, cut it back to about 6 inches from the ground.
- Heather (*Calluna vulgaris*) - Prune flower stems back to the base of old flowers. Snip the green part only. Don't cut down to the brown woody portion.
- Lavender (*Lavendula*) - Although Lavender is a subshrub, **it should not be cut back until after it blooms**, at which time, remove only the green part. Do not cut into the brown woody part.
- Lavender cotton (*Santolina chamaecyparissus*) - Cut back to within 6 inches of the crown every 2 to 3 years to keep it vigorous.
- Russian Sage (*Perovskia atriplicifolia*) - Leave the foliage standing over winter to provide interest and help protect the crown. Cut the old foliage back in spring to within 6 inches of the crown.

If deer are a nuisance in your garden, apply repellents or other deterrents as soon as the plant foliage emerges from the soil. The idea is to condition the deer to view your emerging plantings as unpalatable. Generally, no one deterrent, short of a physical barrier, is enough to stop a hungry deer. For lots of good information on how to address the problem of deer in the landscape, see *The Garden Shed's* article [Deer, Deer, Deer!](#), which appeared in the May, 2021 issue. In addition, see VCE Publication HORT-62NP, [Deer: A Garden Pest](#), and VCE Publication 456-018, [Pest Management Guide: Home Grounds and Animals](#) (scroll down to "Other Animals" in the menu) for more good information on how to deal with deer problems.

If you plan to **grow annuals or perennials from seed**, check seed packets for guidance on the merits of direct sowing in the garden versus starting seeds indoors. Tip: If you decide to start your seeds indoors, sow them in a fine, soil-less growing medium. Place under cool-white fluorescent lights about 14 to 16 hours per day and position the lights about two inches from the top of the seedlings. Maintain day-time temperatures at 70° to 75° F. and 65° F. at night. Keep the growing medium moist but not wet.

Clean leaves and other debris out of aquatic gardens to help reduce algae growth when temperatures warm up. Tip: If amphibians live in your pond, be careful not to disturb them. If they have already laid their eggs, be very gentle as you work around the eggs to avoid harming them.

Sources vary on **when to fertilize spring-flowering bulbs**, but, as a general rule of thumb, they may be fertilized with a **low-nitrogen fertilizer** or a fertilizer made especially for bulbs as soon as the shoots start to appear in spring. For daffodils, the American Daffodil Society recommends reapplying fertilizer at bloom time as well. Other sources recommend fertilizing daffodils after the bulbs have finished blooming. Regardless of when you fertilize, if you are using a granular fertilizer, avoid getting any on the foliage and be sure to water it in or apply it just before a rain.

Cut back ornamental grasses early in the month before they start to display new spring growth. If you wait too long, you risk cutting the new foliage.

Prune tree and shrub twigs that were affected by winter kill. Cut back to green wood. To determine if the twig is alive or dead, scratch the bark with your fingernail.

Feed houseplants with a diluted (half-strength) solution of soluble houseplant food this month. This is when houseplants start actively growing.

Once the soil is dry enough, **inspect your lawn for any problems that need to be addressed.** For example, does the soil need to be aerated and de-thatched? Are there drainage issues that need to be addressed to eliminate standing water? Does the lawn have bare spots that need to be seeded?

If you haven't had a soil test done for your lawn recently, have one done to find out what nutrients, if any, may be needed. See VCE Publication 452-129, [Soil Sampling for the Home Gardener](#). Note: if the lawn needs fertilizer, it's generally **best to apply it in the fall** rather than in the spring. For more information on lawn fertilization, see VCE Publication 430-011, [Lawn Fertilization in Virginia](#).



Garlic mustard

Photo: Cathy Caldwell

Invasive watch: Look for garlic mustard (*Alliaria petiolata*) in your landscape and eliminate it in spring when the ground is moist and the plant is easy to pull up. This **invasive plant** has displaced native wildflowers such as spring beauty, wild ginger, bloodroot, trillium, and toothworts in many forested areas. Although it is easiest to recognize after it produces white flowers in early April, its foliage is also distinctive, and all parts of the plant emit a strong garlic odor. It is essential to remove garlic mustard before it sets seed. For more information on identification and treatment, see the [Blue Ridge PRISM \(Partnership for Regional Invasive Species Management\) Factsheet/Garlic Mustard](#) and [Weed Alert - Garlic Mustard/ Blue Ridge Prism](#) and [Research Update/Blue Ridge Prism/Newest Recommendations for Garlic Mustard/2019](#).

Take photos of your daffodils, hyacinths and other spring bulbs as they emerge in spring to help you remember where they are planted. Once the foliage dies back in late spring, it's all too easy to forget where the bulbs are located. Your photos will save you much frustration and heartbreak later when you are digging holes for new plants.

Featured Photo: Virginia bluebells (*Mertensia virginica*) budding out in March. Photo: Cathy Caldwell

