COLONIAL SWCD

NEWSLETTER

SUMMER 2025

SERVING: The City of Williamsburg | Charles City County | James City County | New Kent County | York County

www.colonialswcd.org

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Cover photograph by Ann Jo Cosgrove.

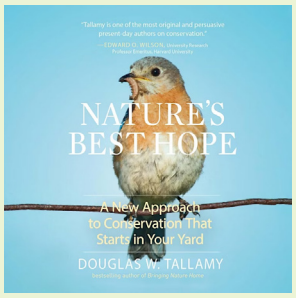
Upcoming Events

An Intro to Dragonflies and Damselflies

August 16, 2025
10:00 am–11:00 am
James City County Rec Center
5301 Longhill Road
Williamsburg, VA

Click for more info

Invite Nature Back into Your Yard



September 11, 2025
6:00 pm–8:30 pm
Jamestown High School
3751 John Tyler Highway
Williamsburg, VA

Click here to register

Staff Contact Information

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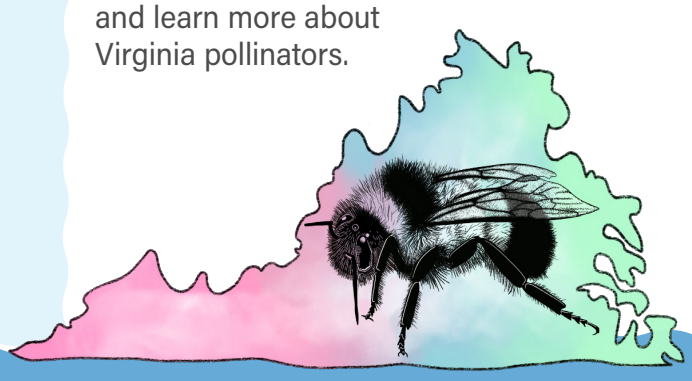
Colonial Pollinator Pledge

Do you love pollinators and want to do something to help native pollinators? Then try taking our Colonial Pollinator Pledge! The pledge only asks that you try your best to make five small changes to benefit pollinators. Please check out the Colonial Pollinator Pledge on our website and learn more about Virginia pollinators.



Big, Bright, and Hardy in the Shade

Amy Walker and Emma Rich

Let me first mention that my flowerbeds are a hobby, I am not an expert but enjoy working in the beds, hands in the dirt, and the inevitable trial and error. I have large and small beds, shade to full sun; all being primarily perennial. I very rarely use pesticides on my plants, instead benefit from generations of praying mantis (native and invasive), other predatory insects, and a plethora of lizards and toads.

My favorite bed is the shade bed. It was the easiest to establish, requires minimal maintenance, and the plants are forgiving and generous.

My shade bed includes the following

Red Twig Dogwoods – Ivory Halo
Heuchera - Peppermint Spice
Variegated Solomon's Seal
Hosta – Stained Glass
Hosta – Abiqua Drinking Gourd
Fern – Autumn Brilliance
Fern - Japanese Painted/Burgundy Lace
Hellebore – Pine Knot Strain
Astilbe – Montgomery
Columbine – red and various colors

Amy Walker
Operations Manager

Emma Rich
Conservation Specialist

Figure 1. My shade garden when it was first planted.

Figure 2. Pine Knot Strain hellebores

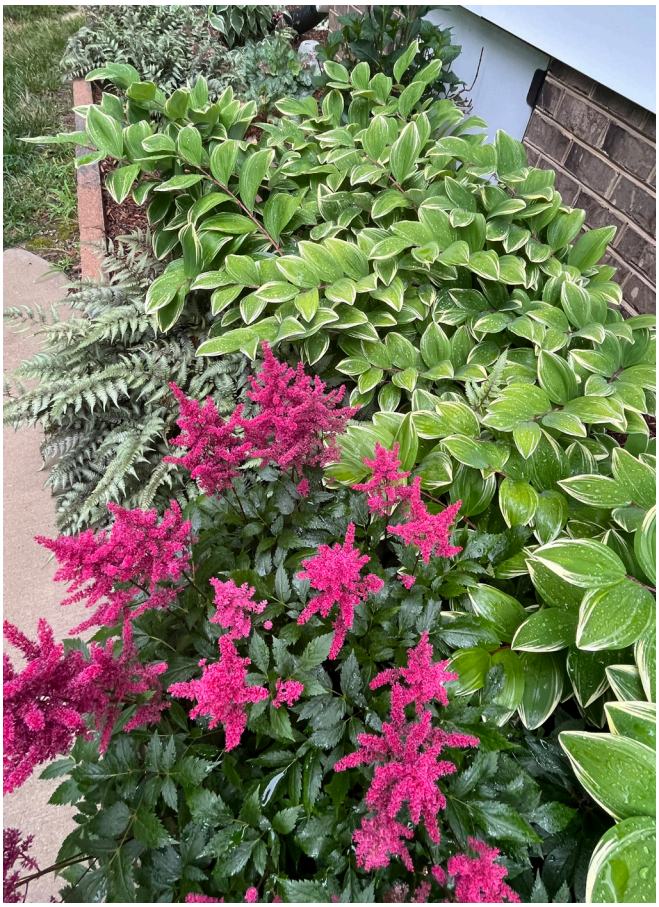


Figure 3. Both are photographs of my well-established shade garden.

Easy to Establish

If you have the patience, plant small and provide adequate space. I chose smaller, less expensive sizes, but tried to be careful to allow each plant adequate space to reach full size (Fig. 1). The red twig dogwoods, hostas, and ferns will all grow to fill their space in time. The variegated Solomon's seal and hellebores (Fig. 2) can spread quickly by rhizome (Solomon's seal) and by seed (once the hellebores are old enough to flower). The hellebores required the most patience, as baby plants can take several years to reach full flower. Purchasing mature plants is absolutely an option, if/when I replace anything now I choose full size plants.

Requires minimal maintenance

My shade bed is often the fullest, deals with the heat and drought the best, and is nearly zero maintenance (Fig. 3). In early winter, generally November/December/January, after hard frosts and the leaves have come off the trees, I pull the fallen leaves off the bed and remove the dead material (Solomon's seal, hostas, astilbe). This is necessary so that the hellebore flower stalks can easily emerge and bloom. I then prune old leaves from the hellebore, prune the red twig dogwoods if needed, and that's it. There's no regular deadheading, shape shearing, pruning, jubilee cuts, stem suckers, or excessive reseeding to deal with. When the Solomon's seal and the hostas start to spread too much, I will split the plants and give the cuttings away. Most of the plants are not palatable, deer and rabbits haven't been an issue (my hostas are surrounded by ferns which may be a deterrent). However, I've run into a problem with voles but use a commercially available pelletized caster oil product that seems to work. I found out the hard way reapplication annually is required.

Figure 4. Red Twig Dogwood. Photograph © Timothy Valentine (flickr)

Silky Dogwood (*Cornus amomum*). Photograph © Patrick Coin (flickr)

Plants are forgiving and generous

As I mentioned, I am not an expert and have learned things the hard way. I have found the plants in my bed to be fairly forgiving if I prune wrong (red twig dogwoods) or clear the bed too late. The huechera may be the exception, I've had to replace several due to planting too low and the voles. Getting leaves off the bed is the one thing I have learned cannot be delayed. Under

Figure 5. Variegated Solomon's Seal. Photograph © J Biochemist. (flickr)

Solomon's Seal (*Polygonatum biflorum*). Photograph © Kristi. (flickr)

Figure 3. Autumn Brilliance Fern. Photograph © Rosewoman. (flickr)

Cinnamon Fern (*Osmundastrum cinnamomeum*). Photograph © Virginia State Parks. (flickr)

the mat of leaves and dead material conditions can get too wet, the mold/fungus gets going, and can result in rot. Also, the mat can be too heavy for the hellebore stalks to get through easily.

I would say the shade bed is generous due to the spreading rhizome of the Solomon's seal, the self-seeding nature of the hellebore and columbine, and the spread of the hosta. I can either move plants around in my beds, or more commonly provide cuttings, splits, and seedlings to friends. The Solomon's seal spreads quickly once established and it can encroach on everything around it. Every other year I cut a line and pull up the rhizomes from the neighboring plants. The hostas I split every couple of years as they outgrow their space. The hellebore and columbine, once mature and flowering, readily seed. I simply remove seedlings from areas I don't want them, pot or wrap them up, and give the seedlings away.

Figure 7. Montgomery Astilbe. Photograph © Bernard Blanc. (flickr)

Heart-leaved Foamflower (*Tiarella cordifolia*). Photograph © BlueRidgeKitties. (flickr)

Native alternatives

When I established the shade bed, native plants were not a priority. If I were to reestablish the bed, I would look for suitable native varieties (like the list below) that may provide similar aesthetics but contribute more to the ecosystem around my house.

Native plants have co-evolved with indigenous insects and other animals over millennia making them a critical part of a balanced ecosystem. The nutritional value of foliage, pollen, nectar, fruits, and seeds of native species are known and measurable, which is not necessarily true of most cultivated varieties. Cultivars and nativars are selected for a specific human-desired trait through intentional breeding or hybridization which, in most cases, results in sterile or no seeds and produces no nectar or pollen—making them unusable to native fauna.

Unlike their cultivated counterparts, native species don't require fertilization or irrigation (post-establishment) because they have also co-evolved with our local climate, soil morphology, and geomorphology. This also makes them a formidable defense against stormwater issues such as standing water from excess runoff and denuded ground from erosion. Indigenous plants have longer roots that help stabilize loose soil, acting as nets which hold soil in place. Besides all of their obvious benefits, native plants are typically easier to maintain and grow more beautiful and bountiful over time!

Here are some native swaps

Instead of this:	Plant this:
Red Twig Dogwood	Silky Dogwood, *Cornus amomum* or Flowering Dogwood, *Cornus florida* (Fig. 4)
Heuchera Peppermint Spice	American Alum Root, *Heuchera americana*
Variegated Solomon's seal	False Solomon's Seal, *Maianthemum racemosum* or Solomon's Seal, *Polygonatum biflorum* (Fig. 5)
Hosta	Lizard's-tail, *Saururus cernuus*
Burgundy Lace Fern	Purple Love Grass, *Eragrostis spectabilis*
Autumn Brilliance Fern	Cinnamon Fern, *Osmundastrum cinnamomeum* (Fig. 6)
Pine Knot Hellebore	Tall Anemone, *Anemone virginiana*
Montgomery Astilbe	Heart-leaved Foamflower, *Tiarella cordifolia* (Fig. 7)

Beneficial Bugs – Assassin Bugs

Amanda Whispell

When you hear the word assassin, you might think of something dangerous or unwelcome—but in the garden, assassin bugs are actually your allies. These fascinating, stealthy predators are incredibly beneficial insects to have around, as they help to naturally control a variety of common pests. Let's talk about what makes assassin bugs a powerful (and under appreciated) asset in any pollinator- or eco-friendly garden.

Amanda Whispell

Education & Outreach Specialist

What Are Assassin Bugs?

Assassin bugs belong to the insect family

Figure 1. Wheel Bug (*Arilus cristatus*) nymph- they don't develop their trademark wheel (see Figure 3) until they are adult, but you can clearly see this one's red proboscis. Photograph © Lisa Brown. (flickr)

Figure 2. Wheel Bug (*Arilus cristatus*) nymph—early instar. Photograph © Lisa Brown. (flickr)

Reduviidae, and there are over 100 species in North America alone. You may notice that they look a lot like the squash bugs (*Anasa tristis*) or leaf-footed bugs (family Coreidae) you find in your garden and that is because they all belong to the same order—Hemiptera, the "true bugs". Hemipterans all have specialized piercing and sucking mouthparts called a proboscis which are, for the most part, for piercing and sucking fluid out of plants (Fig. 1). But for the assassin bugs, they use their curved proboscis to pierce and immobilize their prey, inject it with lethal saliva that liquefies the insides, and then suck out the gooey bug smoothie. Most can also be recognized by their long legs and narrow heads. Nymphs are smaller and can be completely different colors, like the Wheel Bug nymph in Figure 2 compared to the adult in Figure 3.

You might spot them on flowers, shrubs, or vegetables—waiting motionless or slowly stalking their next meal. Some well-known species include the Wheel Bug (named for the spiny "gear" on its back (Fig. 3) and the Spiny Assassin Bug (Fig. 4), which are commonly found in gardens and landscapes here in Virginia.

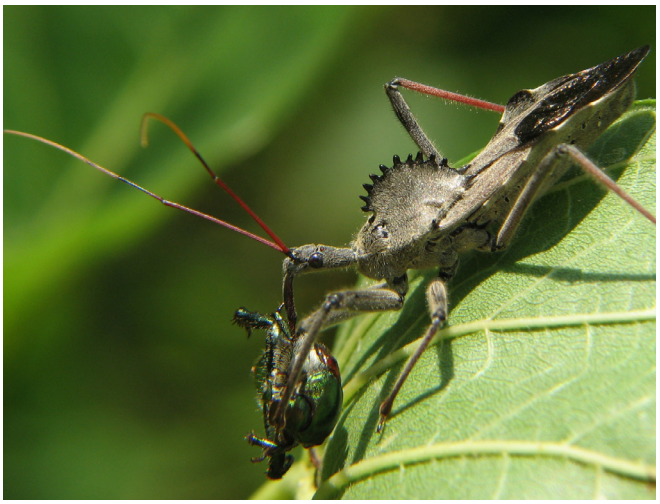


Figure 3. Adult Wheel Bug (*Arilus cristatus*) with prey. Photograph © Lisa Brown. (flickr)

Figure 4. Spiny Assassin Bug (*Sinea sp*) nymph.. Photograph © Katja Schulz. (flickr)

Figure 5. Orange Assassin Bug (*Psellopus barberi*) with a small snack. Photograph © Katja Schulz. (flickr)

How Do Assassin Bugs Help?

Assassin bugs are voracious predators! Unlike pollinators or decomposers, their primary role is pest control (Fig. 5). They feed on a wide range of garden pests, including:

- Aphids
- Caterpillars
- Japanese beetles
- Leafhoppers
- Thrips
- Whiteflies
- Squash bugs

This natural pest control reduces the need for chemical pesticides, which can harm beneficial insects and pollinators. By controlling pest populations, assassin bugs help protect your vegetables, flowers, and ornamental plants from damage, allowing your garden to thrive.

Are Assassin Bugs Dangerous?

To garden pests—absolutely, to humans—not really, as long as you respect their space.

Assassin bugs do not seek out human interaction and are not aggressive. However, if handled or provoked, some species can deliver a painful bite as a defense mechanism.

It's best to observe them rather than touch them.

Fun Facts About Assassin Bugs

Some species camouflage themselves with debris (top right) or the carcasses of their prey (bottom right)—stealthy and stylish.

The wheel bug can grow up to 1.5 inches long and is one of the largest assassin bugs in North America (Fig. 3).

Assassin bug nymphs look like tiny versions of the adults and are just as eager to eat pests (Fig. 2).

Figure 6. (top right) Masked Hunter (*Reduvius personatus*) nymph camouflaged with debris. Photograph © KatzBird. (flickr); (bottom right) *Inarra flavopicta* nymph. Photograph © budak. (flickr)

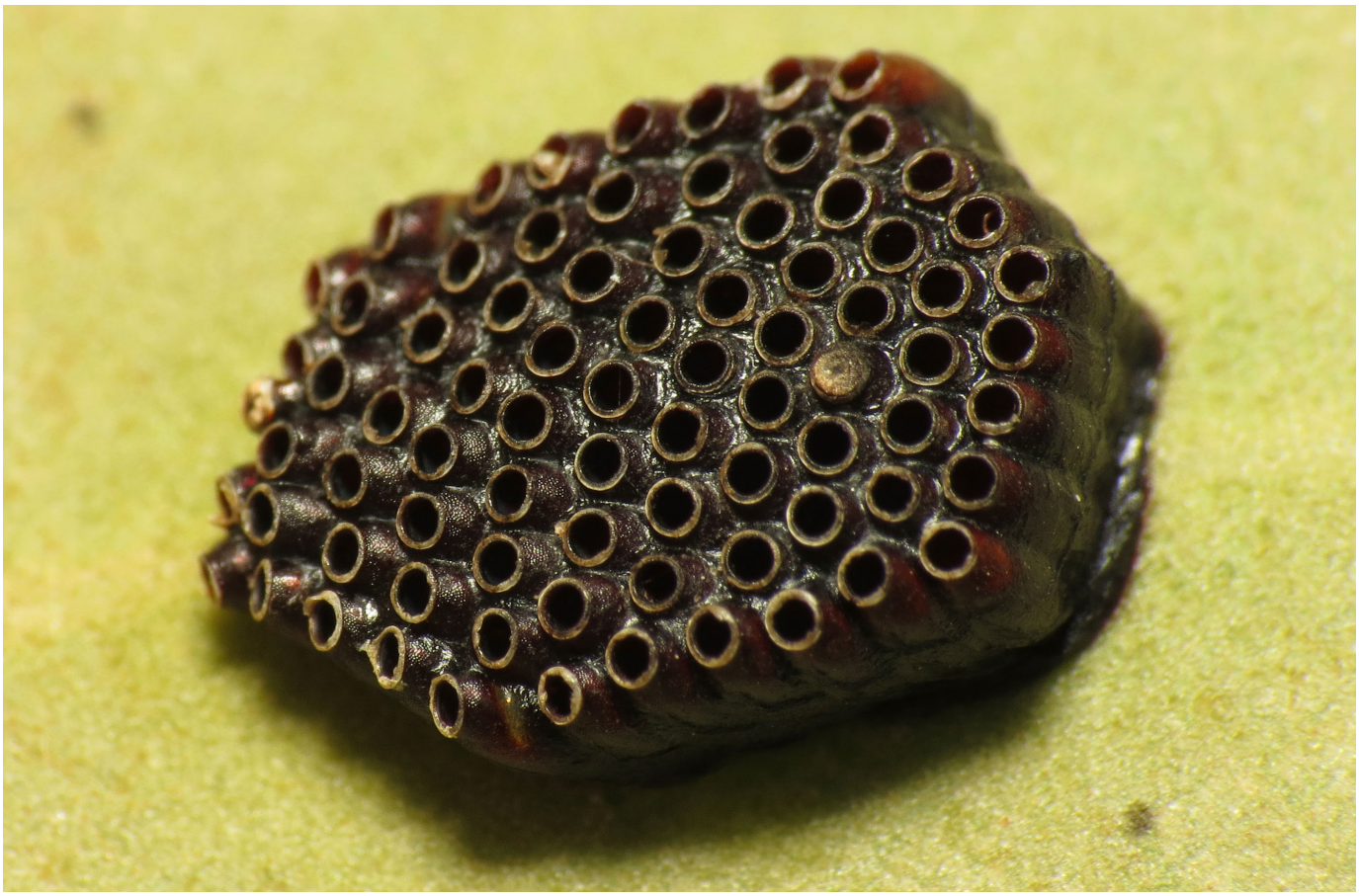


Figure 6. Assassin bug eggs. Photograph © Katja Schulz. (flickr)

How to Attract Assassin Bugs to Your Garden

Encouraging assassin bugs is easy if you maintain a habitat that supports biodiversity. Here's how:

- Grow a variety of flowering plants to attract other insects (their food sources)
- Leave some wild areas or native plants untouched for them to hide and hunt
- Avoid chemical insecticides, which can kill assassin bugs and their prey
- Leave their prey alone—as much as you want to remove those aphids, if you do there will be no reason for these predators to visit your plants and then they won't be there when you really need them.
- Don't squish their eggs (Fig. 6) if you find them on your plants. They are quite distinctive in their shape.

In Summary

Assassin bugs are some of your garden's hardest-working residents. By patrolling your plants and feeding on destructive pests, they offer free, chemical-free pest control with very little effort on your part.

So next time you spot one creeping along a stem—don't panic. That's not a villain; that's your garden's personal bodyguard.

Jamestown High School: Envirothon State Champs!

Amanda Whispell

Virginia's 2025 Dominion Energy Envirothon State Competition was held at the University of Mary Washington on May 18–19. Teams representing 16 different high schools from all over Virginia competed in the hopes of winning. Placing first overall, the Jamestown High School team will now travel to Calgary, Alberta, Canada on July 20–26 to represent Virginia in the National Conservation Foundation's International Envirothon competition.

Teams from across the United States, Canada, Singapore, and China will compete for a chance to win thousands of dollars in scholarship prizes. The Jamestown High team is returning to the international competition after having won the statewide contest last year. As the District that supports this team, we could not be prouder of them and wish them all the luck we can in the international competition.

Envirothon competitions consist of five "in-the-field" test stations—soils, wildlife, aquatics, forestry, and a current environmental issue—which challenge teams to answer questions in both written and hands-on formats. During an oral presentation, teams present their environmental solution to industry and natural resource professionals who serve as judges. The issue for the 2025 Dominion Energy Envirothon was "Roots and Resiliency: Fostering Forest Stewardship in a Canopy of Change" and teams

(Left to right) Charlie Dubay (coach), Amanda Mullane (coach), Frances Smith (alternate), Teagan Ketterman, Eleanor Rossi, Diego Cordero Muñiz, Mia Bakker, Elizabeth Oman, Sara Iverson (alternate), and Rebecca Elton (coach).

presented solutions to explain how climate change is affecting forest health in the context of the Laurel Cliff property and Piedmont region in Amherst County, Virginia. They had to pretend that they work for a consulting firm that has been enlisted to help the Monacan Indian Nation create a comprehensive management plan for Laurel Cliff.

"Dominion Energy is committed to environmental stewardship and empowering the next generation of leaders," said Hunter A. Applewhite, President of the Dominion Energy Charitable Foundation. "Envirothon exemplifies both by challenging students to think critically about real-world environmental issues and inspiring them to find innovative solutions."

Individuals interested in volunteering or learning more about starting an Envirothon team at their high school, 4-H, FFA, Ecology club or home school group, should contact their local Soil and Water Conservation District or the VASWCD at (804) 559–0324.

Dominion Energy®
ENVIROTHON
Presented by **Virginia Association of Soil & Water Conservation Districts**

The Virginia Association of Soil and Water Conservation Districts (VASWCD) is a private nonprofit association of 47 soil and water conservation districts in Virginia and is classified accordingly as a 501(c)(5). It is a voluntary, nongovernmental association of Virginia's districts.

The VASWCD provides and promotes leadership in the conservation of natural resources through stewardship and education programs. Our mission is to serve and strengthen soil & water conservation districts in the stewardship of natural resources.

The VASWCD Educational Foundation is nonprofit and classified as a 501(c)(3) organization that was established in 1990. Funding for additional activities such as Envirothon is provided through donations made by individuals, corporations, organizations and other foundations. Contributions to the VASWCD Educational Foundation are used to support educational efforts within the Commonwealth.

(Left to right) Eleanor Rossi, Teagan Ketterman, Frances Smith (alternate), Sara Iverson (alternate), Mia Bakker, Diego Cordero Muñiz, Elizabeth Oman, and Byron Minson (VASWCD Education and Outreach Program Coordinator).

VCAP Now Available in Newport News

Robyn Woolsey

The Colonial SWCD is excited to announce that landowners within the City of Newport News are now eligible to participate in the Virginia Conservation Assistance Program (VCAP)! This opportunity was made possible through a new partnership with the city which resulted in a Memorandum of Understanding that allows District staff to implement the program within the city boundaries. Many independent cities within the commonwealth, including several in Hampton Roads, are not included in a SWCD service area and are therefore excluded from VCAP. The Colonial SWCD has been working diligently over the past several years to expand VCAP access to these cities through similar memoranda and we're grateful for this new partnership with Newport News.

Participation in VCAP provides landowners with technical and financial assistance for addressing stormwater issues such as erosion, excess runoff, and poorly vegetated areas. All lands except for those that are state or federally owned are eligible, including private residences, schools, businesses, community properties, and places of worship, among others. When a landowner expresses interest in participating in VCAP, district staff generally start off with a site visit to get a better understanding of the characteristics of the property and observe the stormwater issues. During and after the site visit, we can help the landower determine what solutions may be suitable and what may be eligible for financial assistance. VCAP provides cost-share funding for the installation of twelve stormwater best management practices (BMPs), and if the landowner chooses to pursue BMP funding we are there to guide them through the application process.

If you live in Newport News and are interested in participating in the program, please submit a service request through the Newport News 311 service and mention VCAP in your request. This will direct City staff to forward your request to the appropriate district staff.

Robyn Woolsey
Senior Conservation Specialist

> **"The Colonial SWCD is excited to announce that landowners within the City of Newport News are now eligible to participate in the Virginia Conservation Assistance Program"**

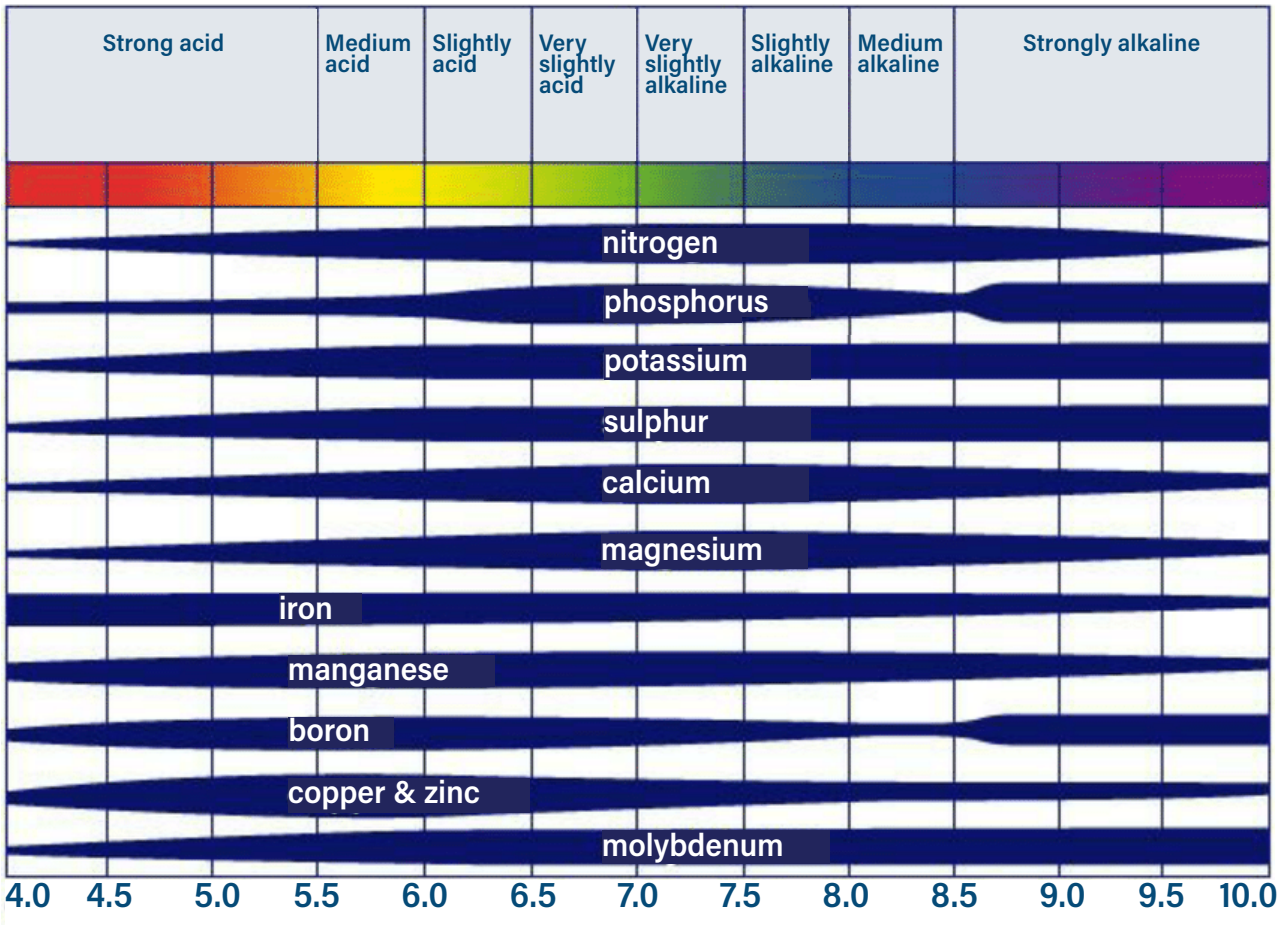
Virginia Conservation Assistance Program

To Lime Or Not to Lime?

Jim Wallace

The climate here in Virginia causes most soils to be moderately to strongly acidic, with a pH between 4.5 and 5.5. As soil that is too acidic can be directly toxic to plants, a soil pH that is *only slightly* acidic (below 7.0, which is neutral) is preferred for most plant species found in agricultural, home garden, and lawn settings. If your soil is too acidic, applying lime will tend to neutralize soil acidity, but how do you ensure that you're not applying too much or too little? The amount of lime you would need to adjust the soil pH to the target range is dependent on several variables, most importantly—the starting soil pH level and texture. A soil testing laboratory

Jim Wallace
District Programs Manager



This widely used "pH Nutrient Availability Chart" shows how the availability of nutrients changes according to the pH. Image from Roques et al., 2013.

will use this information to calculate the amount of lime that should be applied, as the quantity can vary widely depending on the starting soil's pH. A recommended application rate may be expressed in ton/acre for agricultural managers or lbs/1,000 ft^2 in turf and landscape settings.

"If your soil is too acidic, applying lime will tend to neutralize soil acidity, but how do you ensure that you're not applying too much or too little?"

We often talk about lime and fertilizer in the same breath and, while it's common knowledge that the nutrients in fertilizer promote plant growth, many people don't know why it is important to neutralize soil acidity. Soil pH impacts the amount of nutrients that are available to the plant community, as illustrated in the graphic (Fig. 1). Primary plant nutrients, including nitrogen, phosphorus, and potassium, and the majority of secondary nutrients, including sulfur, calcium, and magnesium, are most available to plants within a pH range of between 6.5 through 7.0. However, within that range, micronutrients, including boron, copper, and zinc, are chemically bound to other molecules in the soil and less available for use by the plants. This means there is a sweet spot along the pH spectrum, generally between 6.2 and 6.5, in which most nutrients are most available to most plant communities. Outside of that sweet spot, the potential exists for plant nutrient deficiencies resulting from high or low soil pH.

What is the best way to determine your soil pH? Take a soil test and send the sample to a soil testing lab for analysis. Luckily, the Virginia Department of Conservation and Recreation, the agency that administers the Virginia Nutrient Management Program, approved these two soil testing labs in Virginia last year:

Virginia Tech
145 Smyth Hall
Blacksburg, VA 24061
www.soiltest.vt.edu

Waypoint Analytical- Virginia
7621 Whitepine Road
Richmond, VA 23237
https://waypointanalytical.com

So reach out, get your soil tested, and find out what it really needs.

Daniels WL, Orndorff Z. Acid Sulfate Soils in Virginia: A Primer. Rehabilitation, Revegetation, Reclamation and Restoration Research. Updated December 2012. https://landrehab.org/wp-content/uploads/2020/01/acid-sulfate-soils-in-virginia_a-primer.pdf

Roques S, Kendall S, Smith KA, Newell Price P, and Berry P. 2013. Review of the non-NPKS nutrient requirements of UK cereals and oilseed rape. Research Review No. 78. *HGCA Report*.

Sharp Shears, Spicy Rewards: Maximizing Pepper Yield

Samantha Pereira

Samantha Pereira
Conservation Specialist

Did you know that pruning a pepper plant can maximize your yield by up to 50% per plant! Whether you're growing bell peppers, hot chili varieties, or sweet banana peppers, pruning can improve airflow, reduce disease, and encourage stronger, more productive plants.

Pruning...

- **... encourages bushier growth**, more branches for flowers, and increased fruit production;
- **... improves air circulation and sun exposure**, providing better photosynthesis for the lower leaves and reducing the risk of disease and pest infections;
- **... redirects energy** from excess leaves and stems to fruit production, yielding an increase in the quantity of fruit, earlier maturity of existing fruit, and a sturdy plant unlikely to break with heavy fruit loads.

"Most home gardeners don't realize that pepper plants benefit tremendously from regular pruning," says Maria Sanchez, horticulturist at the National Vegetable Research Center. "Without pruning, plants often become leggy, with energy diverted to excess foliage rather than fruit production."

There are a few different types of pruning that can benefit your pepper plants:

First Pruning:
Occurs early in the plants' growth and involves cutting the main stem of the plant about ¼ inch above the Y-shaped junction where the plant first branches; you want to do this after it has developed 6-8 sets of true leaves.

Secondary Pruning (optional):
When new branches reach about 6-8 inches in length you can begin selectively pruning their tips. This does increase the business of the plant with potential for more fruiting sites. Be careful with secondary pruning as pruning too much at this stage can overstress the plant; limit to 1–2 times per season (Fig. 1).

Maintenance Pruning:
Remove any leaves and branches that are touching the soil to prevent disease and pests. If you notice any disease or damage to branches or leaves, promptly remove them. Remove suckers (small shoots) that emerge from leaf axils that are low on the main stem of the plant.

Late Season Pruning:
Approximately 3-4 weeks before your first expected frost, top all branches that are not bearing fruit. This is very important because it will signal to the plant to focus energy on its existing fruit rather than producing new flowers.

Common Mistakes to Avoid:

Although pruning peppers can be relatively simple and very fruitful there are some major errors to avoid:

- Pruning during the hottest part of the day; increases stress to plant—always prune in early morning and evenings
- Using dirty garden tools—always make sure to sterilize tools between plants with rubbing alcohol or a 10% bleach to water solution

As the growing season progresses, remember that pruning is part science, part art. "Observe your plants' responses and adjust accordingly," advises Sanchez. "Every garden has unique conditions, so be prepared to adapt these guidelines to your specific situation."

With thoughtful pruning and regular care, your plants will reward you with an abundant harvest that hopefully has you reaching for extra canning jars and freezer space.

Figure 1. Example of secondary pruning. When new branches reach about 6-8 inches in length you can begin selectively pruning their tips.

Alliance to Advance Climate-Smart Agriculture Grant

The Alliance to Advance Climate-Smart Agriculture Grant will re-open on July 1 through August 15, 2025.

$100/acre to implement climate-smart practices such as:
Conservation Crop Rotation
Nutrient Management
No/Reduced Till Management
Cover Crops
and more!

Apply Now!
https://allianceforcsa.smapply.us

Contact Samantha Pereira with questions:
Samantha.Pereira@ColonialSWCD.org or (757) 759-0528

Must register for a new account, even if previously applied

Colonial's Conservation Kickoff

Samantha Pereira

Colonial held its Conservation Kick Off event on June 4 at Cousiac Manor, featuring guest speaker Lisa Blazure from the STROUD Water Research Center in Avondale, Pennsylvania. Staff presented information on current conservation programs and key application deadlines, while producers had opportunities to connect with partner organizations including the Department of Conservation and Recreation, Farm Service Agency, Farm Credit, and the York River Round Table. It was a great event, and we look forward to hosting another one next year.

Lisa Blazure from the STROUD Water Research Center in Avondale during her presentation.

The event was well-attended and we enjoyed a wonderful BBQ dinner together.