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The Ornamental Garden in November

By Patsy Chadwick | November 2022-Vol.8, No.11

With the arrival of November, all signs point to the end of the growing season and the beginning of winter dormancy in the ornamental garden. On warmer days, bees, flies, beetles, and other insects continue to visit the few remaining flowers in search of sustenance. Take advantage of those milder days to finish preparing the garden for cold weather ahead.

IS IT TOO LATE TO PLANT TREES AND SHRUBS?

Perennials should be planted at least 6 to 8 weeks before the ground freezes so that they have time to develop good strong root systems before the onset of cold weather. Other plants, such as the following, may be planted right up until the ground freezes:

- **Continue planting deciduous trees and shrubs** until the ground freezes. As the weather turns chilly and you dread working outside, it may be tempting to cut corners on installing new trees and shrubs. Most failed plantings occur because the tree or shrub was planted too deeply or the root ball was not properly watered. Ideally, the hole should be no deeper than the depth of the root ball. Until the ground freezes, the root ball and surrounding soil should be watered slowly and deeply to keep it from drying out. For additional advice, see the Virginia Cooperative Extension's (VCE) guidelines for planting trees.
- **Plant tulip bulbs** in a prepared sunny, well-drained site once the soil cools to about 55°F and night-time temperatures range between 40° and 50°. Tulips require cool soil so that they don't send up shoots before the roots are established. They may be planted up until the soil freezes.

Plant them deeply (about three times the diameter of the bulb) to help protect them from frost heaving as well as from mice, voles and squirrels. Cover the planted area with a layer of mulch about three inches deep. TIP: If you have a deer problem, make a note to protect your tulips from deer browsing once the foliage starts to emerge next spring. Either use a physical barrier or a deer repellent.

THERE'S STILL TIME TO WRAP UP THESE TASKS BEFORE WINTER

If you're a procrastinator or just a very busy person, you may still be working on putting your garden to bed for the winter. Here's a suggested list of tasks to tackle before winter:

- **Dig up and store tender bulbs** that you didn't get around to digging up in October. University of Maryland Publication HG105 on Overwintering Tropical Plants provides good advice on how to store caladium and elephant ear (*Colocasia spp.*) bulbs. It also provides guidance on how to overwinter tropical plants in general.
- **Finish preparing ponds and water features for winter**. Use a pond net to scoop fallen leaves from the water. Prune dead stems and leaves from aquatic plants to prevent the debris from decaying in the water over the winter.
- **Drain garden hoses before the onset of cold weather** to help prolong the life of the hoses. Wipe off dirt and other debris, roll up the hoses, and store them in a shed, garage, basement or other protected place out of the weather.
- **Remove, clean, dry, and store garden stakes, portable trellises, and all breakable items**, including terra cotta pots, rain gauges, bird baths and garden art, that might be damaged by winter weather.
- **Inspect all containers of pesticides, fungicides, and herbicides** to make sure they are well sealed. Store them in a frost-free area to protect them from freezing temperatures.
- **Inspect lawn mowers, tillers, or other gardening equipment for any needed servicing** and plan to have the service completed now or over the winter months.
- **If you have a greenhouse, now is the time to do some basic clean up and maintenance**. Clean the windows thoroughly so that the maximum amount of sunlight can penetrate to your plants. Replace any broken or cracked windows. Check all opening panels to make sure they are in good working order. Grease the hinges if needed. If you rely on a heater to keep temperatures above freezing, make sure it is in working order.
- **Inspect garden tools** before storing them for the winter. Remove dirt and grime from metal surfaces to prevent the formation of rust. Sharpen any tools that have grown dull from use. Treat wooden handles with a mixture of two parts boiled linseed oil to one part paint thinner or turpentine to prevent the wood from cracking. Finally, organize tools so that they can be easily found next spring.
- **Cut back the stems and foliage of established chrysanthemums** about three inches above the ground now or, if you prefer, wait until late winter or early spring to cut them back. If the chrysanthemums were planted this fall, they may survive cold weather better if the stems are left in place. The dead foliage will help protect the plant crown during winter. Also make sure the mums are well watered going into winter.
- **Leave tall sedum standing** over the winter months. The dried brownish-looking seed heads add plenty of color and texture to the garden in fall and winter. They're also stunning when covered in frost or ice.
- **Manage fallen leaves on turf and in flower beds.** A thick layer of leaves on turf can block sunlight from reaching grass. They can also trap and hold moisture beneath them, which can set the stage for turf disease. If you have a mulching lawn mower, use it to shred leaves so that the smaller bits and pieces can more quickly decompose and nourish the soil without harming

the turf. See VCE publication 430-521, "Leave Them Alone – Lawn Leaf Management," for more information on mulching leaves. An alternative to mulching the leaves is to collect them and add them to a compost pile. See VCE publication 426-703, "Making Compost from Yard Waste," for more information on composting. As a third option, consider leaving fallen leaves in place in landscaped areas such as under shrubs or trees where they can decompose slowly without harming the plants. The reason for doing this is to help protect the eggs or larvae of butterflies, moths, and other beneficial insects until they can emerge in spring.

- **Don't get overly aggressive about cleaning up your spent ornamentals**. A little mess is actually not a bad thing. For example, plants with seed heads are a critical source of food for foraging birds over winter. Seeds from cone flower, aster species, black-eyed Susan, sedum, Joe Pye weed, coreopsis, globe thistle, and even zinnias and marigolds will be welcomed by a variety of bird species. Just focus on cleaning up stems and leaves from plants such as peonies and garden phlox, which are subject to fungal diseases, or irises, which are subject to borer infestations.
- **Fertilize dormant trees and shrubs** with a slow-release organic fertilizer so that nutrients will be available to the plants in early spring. See VCE publication 430-018, "Fertilizing Landscape Trees and Shrubs," for information on fertilization basics, such as the signs of plant stress and diminished vigor, types of fertilizers, when to apply fertilizer, and how much. When you apply fertilizer, water it into the soil. Otherwise, the plants cannot absorb the nutrients.
- **Collect soil samples** to test for pH and nutritional levels. Don't guess what your soil needs. If the soil test indicates your soil pH needs to be raised or lowered, now is a good time to apply either lime or sulfur as needed. For more information, see VCE Publication 452-129, "Soil Sampling for the Home Gardener.

DON'T FORGET TO PROTECT YOUR PLANTINGS FROM WILDLIFE DAMAGE

The garden may be going dormant now but that doesn't mean you can stop monitoring it for signs of wildlife damage.

- **Protect young trees from deer damage**, which can result from male deer rubbing and scraping their antlers against tree trunks to remove the "velvet" that has been growing all summer. Rubbing is also the way a deer marks its territory and intimidates other male deer. Protect the tree trunk and lower stems with a physical barrier such as a fence, a wire mesh trunk guard, or a plastic tube or pipe. Another strategy is to loosely wrap chicken wire around the trunk. Regardless of the method used, make sure the barrier does not rub against the bark or restrict the trunk from expanding as it grows.
- **Protect dormant trees from mouse and vole damage** over the winter months. Contrary to what some people think, these diminutive creatures don't hibernate. In fact, they can do some of their worst damage over the winter months. Voles, for example, can do extensive damage to the roots and bark of many woody plants. Several strategies can help mitigate the damage they cause. Install a physical barrier of hardware cloth or wire mesh trunk guards at the base of vulnerable young trees. Wait until after the first hard frost to apply mulch at the base of trees and shrubs but not touching the trunks. If you were using vole and mole repellents over the summer months, don't stop just because the weather has turned cold.

HOUSEPLANT CARE

Now that houseplants are fully acclimated to the indoors after their vacation outside this summer, focus on keeping them healthy and happy within your home's warmer, drier conditions. To learn more about the general care and feeding of houseplants, see VCE Publication 426-100, "Indoor Plant Culture."

- **Reduce or hold off on fertilizing houseplants until spring.** Fertilizer requirements vary from plant to plant depending on their growth rate and the type of fertilizer being applied. In general, they require little or no fertilizer after they have been brought indoors for the winter because this is their time to rest.
- **Cut back on watering but do monitor moisture and humidity levels**. The biggest mistake many people make with houseplants is overwatering them. With the exception of ferns, which generally prefer evenly moist soil, allow the soil of other houseplants to dry between waterings. Meanwhile, most houseplants prefer relative humidity levels of about 40% to 50% and benefit from being misted two or three times a week. Another way to increase humidity is to place the plants on a tray of moist pebbles. Brown tips on the ends of leaves usually indicate that the humidity is too low.
- **Make sure light levels are adequate** for the needs of each houseplant. Give each plant a quarter turn weekly to prevent the plant from leaning toward the light.
- **Provide plenty of bright light to overwintered tropical plants** such as mandevilla, fuchsia, or hibiscus to encourage blooms indoors. Water the plant when the top inch or two of soil becomes dry and mist the foliage periodically to raise the humidity level. If the plant is too large to overwinter indoors, it may be maintained in a semi-dormant state in a frost-free garage or basement. If you choose this storage method, water the plant sparingly so that the root ball does not dry out.
- **Pot hardy spring bulbs for indoor forcing**. For advice on how to force bulbs into bloom, see VCE Publication HORT-76, Fooling Mother Nature: Forcing Flower Bulbs for Indoor Bloom.
- **Start forcing paper white Narcissus bulbs** now in order to have them in bloom over the winter holidays. Paper whites don't require any period of chilling and are very easy to force. Once planted, they will bloom in about 5 to 6 weeks, according to VCE Publication HORT-76 on forcing flower bulbs for indoor bloom. This publication provides excellent graphics and clear instructions on forcing bulbs. It also provides a useful listing of bulbs commonly forced into bloom and projections on the number of weeks they should be planted in advance of flowering.
- **Start Amaryllis bulbs** now for a spectacular in-door floral show over the winter months. One of the easiest and most satisfying of bulbs to force, these popular bulbs, like paper whites, don't need to be chilled in advance of forcing. They prefer to be planted in a pot that is only slightly larger than the bulb. So, select a pot that allows no more than one inch of space on each side of the bulb. If the pot is too big, the bulb may not bloom. Position the bulb so that the top third is above the soil line. Place the potted bulb on a sunny windowsill in a cool room (about 60 to 75° F). Water after potting. Afterwards, water only when the soil feels dry to the touch.

INVASIVE ALERT

Chinese Privet (*Ligustrum sinense*) is one of the most widely found invasive plants in the South, according to the Blue Ridge Partnership for Regional Invasive Species Management (PRISM). This evergreen to semi-evergreen shrub typically grows 10' to 15' tall but can reach 30'. Shallow, wide-spreading, suckering roots allow it to form large monotypic stands and impenetrable thickets that destroy wildlife habitat. Although Chinese privet and all other species of privet are invasive, they are still being sold in nurseries as hedges or privacy screens. White or off-white flowers bloom profusely in June; blue-black, berrylike fruits appear in August and last into winter. Although small seedlings can be removed manually, larger shrubs might require a Weed Wrench® or a forest mulcher. **From November to January, cut larger privet that is taller than 4' to a manageable size and apply a foliar herbicide.** As described in the PRISM factsheet, **a basal bark treatment** can also be effective; apply anytime except early spring. For more information on Chinese Privet, check out the YouTube video on the U.S. Department of Agriculture's National Invasive Species Information Center website. To learn more about other invasive species in this area of Virginia and methods for controlling them, see the Blue Ridge PRISM website. See also the Invasive Plant Control Calendar in the

May 2022 issue of *The Garden Shed*.

Featured photo of pansies in the November ornamental garden: Pat Chadwick

Home Composting Solutions For Virtually Everyone

By Ralph Morini | November 2022-Vol.8, No.11

Composting, the natural decomposition of food waste and other organic matter that can reduce landfill waste and methane generation while creating a wonderful soil amendment, is quickly gaining support from organizations and individuals. Backyard composting is a popular and much documented practice that is followed by many home gardeners to create compost, build healthy soils, and reduce waste sent to landfills.

As composting has increased, homeowners in small spaces or restricted situations have been looking for composting options that can work for them. These possibilities range from small, enclosed outdoor composting bins to worm composting that is practical indoors, specialized systems that partially decompose food waste to speed up complete composting, and community and residential pickup-based programs.

Composting's time is here and while some of us face space or rule restrictions, there are solutions that can enable everyone to participate and contribute to improving the environment and natural ecology that benefits us all. Let's talk briefly about the basics of home composting and then discuss the available choices.

Composting Basics

Backyard Compost. Photo: R Morini

Compost is the result of the decomposition of organic materials like food and yard waste into a rich, dark, soil-like substance called humus. The decomposition is done by organisms including bacteria, protozoa, fungi, beetles, and earthworms, depending on the process used.

While organic matter will decompose over time under most circumstances, you can speed the process:

- Create compost batches from high carbon (brown) and high nitrogen (green) materials. Typical *browns* include yard wastes like leaves, straw, wood chips and sawdust. They can include household wastes like food-soiled napkins, paper towels, shredded non-glossy paper, and cardboard. *Greens* can include grass clippings, green garden waste, fruit and vegetable scraps, coffee grounds, tea bags, eggshells, and pet/human hair.
- Home composters should not include meat, grease, bones, dairy products, oils, or egg yolks. They take longer to decompose and can attract varmints. Never use pressure treated wood residue, coal or charcoal dust, black walnut leaves/twigs, pet waste, or herbicide- treated or

diseased plant waste.

- To achieve “hot composting,” which can reach temperatures of 130° or more, create batches where the ratio of browns to greens is either equal or 2:1 by volume. Hot composting provides the fastest decomposition while helping kill weed seeds and pathogens.
- Cut materials into small pieces to speed up decomposition time by increasing the surface area for microbes to attack. Chop up kitchen waste and leaves to help the process.
- Aerate the pile by turning it regularly, typically weekly. As materials break down, the batch will settle, forcing air out of the pile, making the decomposition anaerobic and generating odors and unwanted methane gas.
- Compost batches should be moist but not drippy. While aerating, check moisture. Add water if dry. If dripping wet, increase aeration frequency and cover it if rain is expected.

Compost batch with browns and greens. Photo: R Morini

- A good size compost batch is a 3- or 4-foot cube. This is small enough to manage but large enough to provide the insulation necessary for the core to reach the desired high temperatures. Smaller batches will still decompose but will take longer and are more likely to sprout weeds. Time from initiation to completion of a compost batch can be from 3 or 4 months to a year or more, depending on material and management. Compost is ready when the material is loose, dark, rich smelling, and the inputs are no longer recognizable.
- Before use, consider screening the compost to separate older, finished compost from less decomposed, newer inputs that require longer processing.

For a very good introduction to backyard composting, refer to Backyard Composting from the Virginia

Cooperative Extension.

Neighborhood Restrictions

2 Barrel Compost Tumbler. Photo: Oberlin College Green Edge Fund

Problems in neighborhoods where there are restrictive covenants or neighbor objections about perceived risks of smells or varmint problems may be resolved by using closed containers. There are many types of containers available via an internet search. Rotatable drums are a good option. They make aeration simple, minimize odors, speed decomposition, and may offer dual bins that allow multiple small batches to be managed.

The lead photo of the article is a home-made food waste composting solution that was developed by a clever local master gardener with a limited city garden space. She cut holes in the side and bottom of a small metal trash can and buried it in her garden bed. Nearly invisible, it allows water and worm penetration through the holes and drainage through the bottom, it’s easy to aerate and moisten, has no odor or varmint issues and produces a steady supply of usable compost that she applies as needed to pots and garden soil. Well done!

When an Indoor Method is Required…

There are a variety of possible approaches for composters who are limited to interior spaces.

Worm compost bin. Photo: NC State Extension

- **Vermicomposting** (Worm Composting) uses special earthworms (red wigglers) to eat and excrete fruit and vegetable wastes mixed with shredded paper and/or leaves to create nutrient- and microorganism-rich "castings" — a great soil amendment. It can be done cleanly and is a good solution for apartment dwellers as it can be placed under the sink, in a closet, or a garage if the temperature is in the 65-70 degree range. This EPA publication provides "how-to" details.

"Bokashi composting at work #2" by urbanwild is licensed under CC BY-NC-ND 2.0.
Inoculant bucket on the left, composting bucket on the right

- **Bokashi bucket composting** is a Japanese technique that ferments kitchen scraps (including

meat and dairy) anaerobically, using an inoculant that includes anaerobic microorganisms to prepare the scraps for rapid decomposition after it is added to healthy soil. The organic material and inoculant are layered in an airtight bucket with a spigot at the bottom to drain (liquid) leachate. The materials are pressed to squeeze air out and allowed to ferment for a couple of weeks. The leachate can be drained and diluted with water by about 100:1 and used as a fertilizer. The solids are not compost yet, but when mixed into soil are rapidly decomposed by soil organisms to complete decomposition over a couple of months. The process is quick, provides good soil benefit, reduces landfilled organic waste, and is relatively inexpensive. Buckets can be purchased or homemade, and the inoculant costs about $8-10 per month depending on the volume of material processed. It can be done in a garage, which keeps it out of the residence and allows it to operate year-round. A thorough writeup describing Bokashi Bucket Composting is presented by the Bernalillo NM County Extension Master Composters, and an informative video is available from the College of DuPage titled Bokashi Composting.

- **Countertop Composters** are another possibility. Be careful however. Know what you are buying. Some items called countertop composters are simply food waste collection bins. There are, however, electrically-powered devices that heat, aerate, grind, and mix food wastes and other compostable inputs, generally with a proprietary probiotic tablet or powder, to produce a product that can be added to soil or a compost bin for rapid decomposition. Where Bokashi requires a couple of weeks for fermentation to complete, these units provide a fine-ground material in a matter of hours. Manufacturers may call the product compost or dirt, but in fact the output is neither. However, it does provide a fast and clean first step toward creating compost, while reducing the landfilling of food and other organic wastes. Cost of the equipment can be expensive, up to $500. Cost of inoculant and carbon filters (desirable since the units sit on kitchen counters) can run about $40 per quarter. I haven't been able to find non-commercial information on these products, but on-line information is available under *countertop composters*.

City and County Drop-off Options

McIntire Recycling Center. Photo from www.Rivanna.org

- While the McIntire Recycling Center and the Ivy Material Utilization Center may be more widely known for their recycling activities, they also have well run, active composting programs. They can handle meat and dairy products, and they provide free collection bags. Check the highlighted links for guidance.
- For Charlottesville residents, there are a number of convenient ways to drop off food and

organic wastes for composting:

- Food scraps including meat, dairy and certified compostable plastics can be dropped off at City Market on Saturdays from April to October. Compostable bags are available at no charge from the collection location. For details, check out Composting at City Market.
- Charlottesville also offers a free service where residents can register to get a code for access to one of several convenient drop off sites in the city. Sites are unstaffed and available 24/7, for resident convenience. Find details at Compost drop-off 24/7.

Residential Pick-up Possibilities

Another option that became increasingly popular during the Covid years, is residential pickup. Two local collection and composting companies have established convenient and affordable programs that are available to residents in and around Charlottesville/Albemarle. The programs are similar but offer different options to fit resident preferences. The basic options typically include a modest sign-up fee, a monthly charge for pickup, options for kitchen waste and yard waste with appropriate bucket or bin, and some free finished compost once or twice a year, along with discounts on bulk purchases. Negotiating a small neighborhood or HOA pickup program may also be a possibility. Review these links from Black Bear Composting and Life Cycle Organics to see the basics.

Some Important Details for Residents

In speaking with the composting pros for this article, it was clear that we, the public, have a big influence on the success of the composting programs:

- Avoid "wish-cycling". Don't try to recycle material that is not compostable, and that will reduce the usefulness of the final compost. When in doubt, better to dispose of the bad stuff. Examples include:
  - Removing plastic tags from fruit and vegetable skins
  - Be sure papers are "*compostable*" — not just bio-degradable
  - Don't save paper from plastic-lined food packaging like milk and ice cream containers and plastic-lined paper coffee cups
  - Understand which items are and aren't acceptable for the process or program you are employing and follow the guidelines.
  - No pesticide- or insecticide-treated yard waste
- When in doubt, contact the sponsoring organization or knowledgeable individual and follow their guidance.

Including non-compostable trash in the mix reduces the quality and attractiveness of the finished product. Let's not undermine the process through carelessness.

The Solutions Exist

A lack of concern for excessive food and yard waste disposal is contributing to environmental damage and climate change. Composting these organic products offers an effective way to reduce the negative impacts while improving our soils. Commercial and community options are available to enable just about everyone to participate in this important practice. If you are not currently a composter, please review the options presented here and consider adopting one that makes sense to you and your situation. Let's make a difference.

Sources:

Lead photo: Master Gardener Hidden Composter, Photo: Fern Campbell

“Making Compost from Yard Waste,” VA. Coop.Ext.
https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/426/426-703/SPES-393.pdf

Tips for limiting food waste:
https://pmgarchives.com/value-your-food-food-saving-tips-for-reducing-food-waste/

The Edible Garden in November

By Chris Stroupe | November 2022-Vol.8, No.11

After a hot and surprisingly wet summer in the Piedmont, most gardeners were expecting a warm autumn. Not so, however. September was cooler than expected and October, through mid-month, was more or less average, though the end of the month has been surprisingly warm. The average first frost date for our hardiness zone 7a is October 15-25. If you want to keep sensitive plants healthy, you would be wise to have your row covers or other protective devices ready as needed while keeping an eye on the extended forecast. Nevertheless, it is time to clean up the garden, prepare for winter and take steps that will be of benefit next spring. Here are a few recommendations.

Cleaning and protecting your beds

Beds that no longer have a growing crop and will be idle this winter should be cleaned. Remove plants and plant debris. It can be composted if clean, but if it shows evidence of disease or pest infestation, it should be bagged for disposal or burned. It is too late now to establish a cover crop so covering soil with an organic mulch is the next best choice. Mulched leaves are a good and generally available option. Use the bagger on your mulching mower to collect chopped leaves, or mulch and rake them. Use them as a mulch to protect soil or mix them with grass clippings and kitchen scraps to start new compost batches. Chopping them up is

important to allow water infiltration and reduce wind dispersal. They also break down faster, providing needed organic matter for the soil while reducing carbon loss, erosion and moderating soil temperature. Other mulch options include straw, wood chips and aged saw dust.

Cover Crops

Winter cover crop, Cultivate Charlottesville CATEC garden: Photo: Ralph Morini

Best soil building practice today is keeping live roots in the soil, year-round. Cover crops are a recommended way to do this when other crops are not being grown. A diverse winter-hardy cover crop is a great soil builder. The photo above shows a crop that includes crimson clover, a legume that will add nitrogen, daikon radishes that will loosen compacted clay soil, annual rye grass for added root mass and mixed grains. There is also some self-seeded buckwheat from the summer cover crop that will be winter killed but will add organic matter to the soil next spring so is a do-no-harm invader.

When cut before setting seed in the spring, the vegetative material can be tilled in as a green manure, composted or used to mulch transplants. The roots are left in the soil to decompose, adding more organic matter.

It is late to plant a cover crop now, but if you haven't done it, consider planting one next fall. More information on cover crops can be found in the article Cover Crops from the U of Maryland Extension.

Extending the Growing Season for Cool Weather Crops

DIY Row Cover: Photo: Ralph Morini

Winter hardy crops including many greens like lettuces, spinach, kale and other brassicas planted in September or early October, should be harvestable now. Mulching around the plants will help reduce cooling and keep them productive into the winter. Using row covers maintains a temperature beneath the spun polyester fabric up to 5 or 6° F higher than ambient, while still allowing rainfall and sunlight to reach the plants. For more information on row cover options including a simple DIY system like the one in the photo, see the article Row Covers: A Gardening Season Extender With Benefits from the November 2019 *Garden Shed*.

Adding Compost

A couple of inches of clean compost, worked into the top 3 to 4 inches of soil, then covered with an organic mulch will improve next spring's soil readiness. Best practice is not to till deeply or turn the soil over, but to stir the compost into the soil surface, letting soil organisms decompose and carry the organic material deeper into the bed.

To habitual tillers, this seems counterintuitive. However, research and the experience of organic market farmers demonstrate that tilling destroys soil structure, reduces soil organism activity, and releases stored

carbon to the atmosphere. Varying the crops grown in specific garden locations, using diverse cover crops, adding organic matter, and amending as soil tests indicate, are the best way to improve and regenerate soils.

Start a New Compost Batch

Grass and leaves in compost bin. Photo: R Morini

With the abundance of fall leaves, start a new batch of compost that will be ready for next summer's garden. Final lawn mowing and leaf removal generate a great mix of nitrogen- and carbon-based organic materials to get decomposition started. Augment the nitrogen input it by mixing in kitchen fruit and vegetable scraps and coffee grounds during the winter. Microbial activity will definitely slow down during the dead of winter, but with a little mixing to keep it aerated and good moisture management, it will be primed to take off as temps rise above 50° in early spring. The finer you chop the materials, the faster they will break down. Check out this brochure on home composting from the VA Cooperative Extension for detailed guidance.

Prepare a New Bed

Sheet mulch plot at CATEC garden. Photo: R Morini

One circumstance where tilling soil may be useful is in starting a new bed. Loosening compacted soil and adding organic matter can be beneficial. However, sheet composting or lasagna mulching provides a non-dig alternative that may make sense for you. It involves scalping the grass off the bed area(s) and covering it with alternating layers of carbon and nitrogen rich materials. The layered material will cold compost over a few months, providing a carbon-rich surface that helps soil organisms flourish and carry organic matter deeper into the ground. Crops can be planted directly in the surface material. Starting the process now should provide you with a planting-ready bed for warm weather vegetables next spring. The photo above shows a sheet mulched plot using a paper barrier on the soil, covered with 6 inches of composted arborist waste and 3 inches of straw. For a detailed description of the process, refer to the Garden Shed article Lasagna Mulching

Other tips for the month include:

- Get your **garden documentation** in order. Knowing what you planted and where you planted it is important. Good crop rotation practice helps minimize disease and insect issues next year. Also, noting the crops and varieties that did and didn't do well provides guidance as you shop for seeds and plants for next year's garden.
- **Root crops** such as carrots, radishes, turnips, and parsnips **store well outdoors** in the ground. Just before the ground freezes, bury these crops under a deep layer of leaves or straw.
- If you are a fruit grower, November is a good time to **mulch fruit trees.** Extend 2-3 inches of mulch to the edge of their canopy, but keep it a few inches away from the trunk to prevent potential rodent damage.
- **Early November is a good time to plant most new fruit trees.** Mulch the same as for established trees.
- **Fallen fruits should be cleaned up** and buried or placed in the trash. Good sanitation

practices reduce insect and disease infestation next year.

- **Mulch strawberries** with straw or leaves. This should be done after several nights near 20ºF but before the temperature drops into the teens. Apply the straw or leaves loosely but thickly enough to hide plants from view.
- **Now is a good time to collect soil samples** to test pH and nutrient levels. Organic amendments are slow-acting, so fall application improves soil for spring planting. Soil test kits are available at your local Extension Office. The Charlottesville-Albemarle Extension Office is located in the County Office Building on 5th Street Extended, 460 Stagecoach Road, Charlottesville. Kits and instructions are available in a box on a bench outside the front entrance.
- **Disconnect, drain and roll up garden hoses.** Best to do it before it gets cold and they get stiff and hard to handle.
- **Drain rain barrels, outdoor water pipes and irrigation systems** that may freeze during the cold weather.
- **Rhubarb** plants that are four years old or more can be **divided and transplanted**. Prepare the site by digging deeply and incorporating compost.
- **Cut off the tops of asparagus plants to about 3-4″ above the soil level**. Weed, and add a winter dressing of compost or aged manure to the bed.
- If you have been thinking about installing a **deer fence** around your vegetable garden, the fall and winter months are a good time to build it.

I hope you find this information helpful and that you will check in again next month. Comments are welcome.

Sources:

"Monthly Horticulture Tip Sheet: November," VCE Monthly Horticulture Tip Sheets, Virginia Cooperative Extension, Albemarle County/Charlottesville.

"Monthly Gardening Tips: November," Piedmont Master Gardeners website, Gardening Resources.

Updating Foundation Plantings

By Susan Martin | November 2022-Vol.8, No.11

Our spring project was to revamp the mid-90s landscape that frames the front of our house. The manual work of pulling out the old and replacing with new was straightforward. The planning process, however, was a multi-month task that required many hours of research and collaboration with our landscaper. I hope that sharing our experience will be useful to homeowners who are refreshing, overhauling, or designing from scratch on a new lot. I'll describe the plants we inherited, what we wanted to change, our goals, and the plant selections that met our criteria.

THE INHERITANCE

"Before" picture of foundation plantings, in spring Photo: Susan Martin

"Before" picture of foundation plantings, late winter, the next year Photo: Susan Martin

As you can see from the photos, the **shrubs were packed in very tightly**, which is not unusual for a landscape that is almost 30 years old. The very large holly shrubs are most probably American hollies, *Ilex opaca,* pruned to a round shape. They flank Japanese maple bushes which have obviously outgrown their allotted space in front of the house. To the far right, is a conical-shaped tree holly, probably also an American holly, and a large male American holly bush next to it around the corner. The landscaper assumed the male holly was planted to pollinate the tree-shaped holly, and the other American holly shrubs. We decided to keep the tree holly and the male holly. The flowering shrub is a nonnative viburnum, probably a Japanese snowball. (Although I really liked this nonnative viburnum, it was just too big for the new plantings. Finding the right scale can be a challenge when trying to mix old and new shrubs.) On the left, in the front corner, is a crepe myrtle set very close to the house. To the left of the crepe myrtle are two Japanese azaleas.

On the far left, out of view, are 5 dwarf nandinas. This sterile cultivar does not flower or produce the bright red berries of *Nandina domestica*. A small red Japanese maple tree to the left of the nandinas was left in place. There was a 2.5’ wide gardening strip on either side of the front walk. We had planted 2 different types of native sedge (*Carex*), but that combination never really worked. **We decided to eliminate the gardening strip and plant grass up to the edge of the walk.** We left in place **two dwarf inkberry hollies at the end of the path** near the circular drive.

NECESSARY CHANGES

On a practical note, the overgrown hollies, viburnum, and Japanese maples prevented us from reaching the windows for washing, and made access to the dryer vents very difficult. The hollies also required severe pruning to keep the stair railings usable. In addition, my husband seemed to have a severe reaction from pruning the hollies (beyond just a dislike of pruning) when the hollies touched his skin. He broke out in a serious rash that lasted for a couple of weeks.

WHAT WE HOPED TO ACHIEVE

An overall goal was to **incorporate as many native plants as possible.** Neither the nandinas, the snowball viburnum, the azaleas, the crepe myrtle, nor the Japanese maples met this criterion. We also wanted to make the foundation plantings **complementary to the natural setting,** which is open acreage surrounded by hay fields. The desired look would be something looser and more natural looking than the original foundation planting. Proper spacing for the plants was also very important. **Providing food and cover for native insects and birds were also goals.**

“After” picture of redone foundation plantings Photo: Susan Martin

SOIL TESTING

We tested the front and back areas of our lawn area about 3 years ago and the **clay soil was acidic,** with a pH of 5.5 in the back and 6.0 in the front. **Many of the shrubs we chose for the foundation area prefer acidic soils,** which seemed like a good fit. Soil samples were taken this fall from both sides of the foundation area to check the pH and nutrient profiles of the new beds. Surprisingly, the right side of the bed has a pH of

7.1 (neutral), while the left side has a pH of 6.1 (slightly acidic). We've **added aluminum sulfate this fall to lower the pH** on the right side. Depending on the health of our shrubs next spring/summer, we may need to retest the soil. See this article for more information on changing the pH of your soil.

SELECTING PLANTS TO ACHIEVE OUR GOALS

We decided to use native evergreen plants as the main foundation plants but there are surprisingly few options. Boxwood is a common foundation plant, but it is not native to North America. There was also a severe case of boxwood blight at our previous location in Charlottesville. In addition to evergreen shrubs, **we wanted to add deciduous shrubs for different leaf textures, periods of bloom, and colorful fall foliage.**

INKBERRY – *Ilex glabra*

We chose the **native evergreen shrub, inkberry *(Ilex glabra*), as the anchor shrub for our layout.** This species reaches a mature height of 5-10' and a width of 5-8'. An April 2022 article from *The Garden Shed* describes some basic challenges with using inkberries. A primary consideration is that inkberries tend to become leggy as they age, meaning that as they grow taller, they tend to lose their bottom branches and look thinned out. Some of the newer inkberry cultivars are supposed to retain fullness better than the straight species, but there are still warnings about thinning out as they age. We **chose *Ilex glabra* 'Nigra' for the back of the foundation.** 'Nigra' has a mature height of 6-10' which, with some pruning, will keep the shrubs below the windows. For the front row of inkberries, we considered the cultivars **'Densa'**, 'Shamrock', or 'Compacta' **for a fuller, shorter shrub.** 'Densa' was available, and we were happy with its size of 4-6' tall and wide**. 'Gembox' is the dwarf inkberry cultivar** we selected for the end of the walk. It grows to about 2-3' tall and wide.

Ilex glabra 'Nigra' Photo: Susan Martin

Both male and female inkberry hollies are required if berries are desired. The flowers are not self-fertile and are pollinated by bees. If pollination occurs between male and female plants, flowers are followed by pea-sized, jet black, berry-like drupes which mature in early fall. These berries are attractive to many songbirds. Although female shrubs are common in nurseries, it is **difficult to find male cultivars, or male inkberry straight species.** The Holly Society of America noted that some inkberries might have self-fertile flowers, or they may be pollinated by other *Ilex* species, such as *I. opaca*. **We are hoping that the inherited male *I. opaca* will pollinate the female inkberries.**

VIRGINIA SWEETSPIRE – *Itea*

One of the deciduous shrubs we incorporated is ***Itea* 'Little Henry', a dwarf cultivar that grows 2-3' tall and wide.** *Itea* is a low-maintenance shrub recommended for well-drained, moist-to-wet, medium acidic soils with a pH of 5.0 to 6.5. Usually categorized as a wetland species, *Itea* can also thrive in average moisture conditions, and can tolerate drought conditions once it becomes established. Although it can adapt to partial sun conditions, it develops a fuller habit, flowers more profusely, and shows more vibrant fall color in full sun. This shrub has three seasons of interest with long, white, sweetly scented flowering "spires" in late May and June; fall foliage in shades of red, orange, and purple; and deep, glossy green foliage in summer. A possible downside is that *Itea* tends to sucker, i.e., spreads by sending up shoots. Some suckering will be welcomed in our foundation area, and suckering is easily controlled by pruning. For more information on this shrub, see the April 2017 issue of *The Garden Shed*.

Itea 'Little Henry', fall foliage Photo: Susan Martin

FOTHERGILLA

Fothergilla x intermedia 'Mt. Airy', fall foliage Photo: Susan Martin

Fothergilla is another native, deciduous shrub that met our selection criteria. There are only two species of *Fothergilla* and both are native to the southeastern United States: large *Fothergilla* (*Fothergilla major*) and dwarf *Fothergilla* (*Fothergilla gardenii*). Large Fothergilla grows 6-10' tall and 5-9' wide; dwarf *Fothergilla* grows to about 3-4'. We chose *Fothergilla x intermedia* **'Mount Airy',** a naturally occurring cross between the two species (*F. major* and *F. gardenii*). **'Mount Airy' grows about 5' to 6' tall and wide** and shows consistently good fall colors. In summer, this attractive shrub bears dark green to bluish-green leaves. It is generally thought to be superior to the species in flower size and abundance, cold hardiness, general robustness, and fall color. *Fothergilla* thrive in acidic soil with a pH of 5.0-6.0 with plenty of organic matter. It is happy in filtered shade to full sun, but the best fall color is produced in full sun. The dwarf species tends to sucker, and 'Mount Airy' tends to sucker as well. For more information on this shrub, see the November 2017 issue of The Garden Shed.

WILD HYDRANGEA – *Hydrangea arborescens*

Hydrangea arborescens 'Abetwo' INCREDIBALL, in fall
Photo: Susan Martin

Wild hydrangea or smooth hydrangea grows 7-7.5' tall and is native to the eastern and central U.S. Although usually found in moist, wooded areas, wild hydrangea can also grow in full sun if provided sufficient water. It has large leaves, and beautiful flower heads that bloom in June and keep blooming for about two months. The flowers then fade to a soft green in early fall, and dry to a tawny brown. The dried flower heads add winter interest to the garden. There are two different types of native hydrangeas: lacecaps and mopheads. Lacecaps have hundreds of fertile flowers usually surrounded by a ring of showy sterile flowers. Mopheads contain masses of sterile flowers in large-dome shaped flowerheads with relatively few fertile flowers. The fertile flowers of lacecaps attract a great number of pollinators, while the sterile flowers of mopheads provide spectacular floral displays. 'Annabelle', a simple selection of naturally occurring plants, was one of the earliest wild hydrangeas to exhibit a mophead floral mutation. **The cultivar chosen for our foundation plantings is 'Incrediball'.** It was bred from 'Annabelle' and is credited with having stronger stems and larger blooms. In fact, 'Incrediball' is **sometimes called "Strong Annabelle" hydrangea.** At 4-5' tall and wide, the smaller size is suitable for our foundation bed. Many recent cultivar innovations based on selective breeding are mopheads because of the popularity of their exquisite flower displays. The Mt. Cuba Research Center has published a report based on a trial that compared different cultivars of *H. arborescens*. This study compares overall plant characteristics; the impact of growing in sun versus shade; and attractiveness to pollinators. **Wild hydrangeas are subject to severe deer browsing.** Although we're hoping that proximity to the house will provide some protection, we may also need to add plastic fencing for months of heaviest browsing.

OAKLEAF HYDRANGEA – *Hydrangea quercifolia*

Right side of foundation bed Photo: Susan Martin

Oakleaf hydrangea, later added to right side by entry Photo: Susan Martin

Oakleaf hydrangea is a deciduous, rounded shrub with large, dark green foliage that is lobed, coarsely textured, and similar in shape to the leaf of an oak tree. White flowers appear in elongated, cone-shaped clusters that bloom 4-6 weeks in June-July before aging to either tan or deep pink. The foliage turns a beautiful red to purple and lasts through fall; the dried flowers also add late fall interest. Hydrangeas generally prefer moist, well-drained, acidic soil (5.0-6.5 pH) in partial shade/shade. Once established, the oakleaf species tolerates drier soil and more sun than other members of the genus. Oakleaf hydrangea is

native to all the states in the southeastern quadrant of the United States, from North Carolina south to Florida and west to Louisiana. Although **not native to Virginia**, it performs well here. **It is susceptible to significant deer damage;** we have planted ours next to the house by the entry. The species grows on average to 8' tall, with some growing to 12'. There are many cultivars that offer a range of sizes. **We selected the compact cultivar 'Pee Wee' which grows 4-5' tall and wide**. See the article, "Oakleaf Hydrangea," from November 2016 issue of *The Garden Shed* for more information.

MOUNTAIN LAUREL – *Kalmia latifolia*

Mountain laurel is a broadleaf, evergreen shrub native to eastern North America. In the wild, the species grows 5-15' tall and wide. **We selected a dwarf cultivar, 'Elf', that grows 3-4' tall and wide.** Leaves are green and glossy, and clusters of white flowers emerge from distinctive shell pink flower buds in late spring/early summer. Mountain laurel tolerates a wide range of light conditions, from full sun to full shade, but grows best in partial shade (morning sun with early to mid-afternoon shade) and in cool, moist, humus-rich, well-drained, acidic soils. It is subject to chlorosis (yellowing) of the foliage in alkaline soils. Mulching is recommended to retain moisture and keep root zones cool. The species is susceptible to several insects such as borers, scale, white fly, and lace bugs. It is also susceptible to leaf spots and blights. If ingested, all parts of the plant are highly toxic to humans, cats, dogs, and horses. Honeybees that feed heavily on these plants are known to produce "mad honey" that can be toxic for human consumption. Mountain laurel is attractive to many pollinators, including butterflies and hummingbirds. **It is usually deer resistant.**

Mountain laurel 'Elf' Photo: Susan Martin

RED SWITCH GRASS – *Panicum virgatum* 'Shenandoah'

Left side of foundation bed Photo: Susan Martin

Panicum virgatum 'Shenandoah', red switch grass, to the right of the Japanese maple tree Photo: Susan Martin

We chose to replace the dwarf nandina bushes with a cultivar of the native perennial switch grass, *Panicum virgatum.* **'Shenandoah' grows 3-4' tall topped in summer by finely textured, reddish-pink flower panicles** which hover over the foliage like an airy cloud. Panicles turn beige as the seeds mature in fall with the seed plumes persisting well into winter. Seeds are a winter food source for birds. Foliage emerges bluish green but rapidly turns burgundy red by late June. 'Shenandoah' features some of the best burgundy-red foliage of the many panicum cultivars currently available. This warm-season grass tolerates a wide range of soils and is easily grown in average, medium-to-wet soils; it may flop in overly rich soils. It can tolerate both dry soils and occasional flooding. It generally prefers full sun and is planted in the sunniest spot of our foundation bed. It grows primarily in clumps but will slowly spread by slightly creeping rhizomes. Plants may self-seed in optimum growing conditions, but cultivars may not come true from seed. **It is not attractive to deer.**

SEDGE – *Carex*

Although not a grass, sedge is a "grass-like" perennial plant with **triangular stems** and inconspicuous flowers. Of the family **Cyperaceae,** there are over 1,500 species of the genus *Carex, which from Latin means* "cutter" in reference to the sharp leaves and stem edges. As a native ground cover, it can reduce the need for mulch and suppress weeds. It is sometimes used in place of turf to reduce lawn maintenance and is also an effective specimen plant in ornamental and rain gardens. Various native sedges act as caterpillar hosts plants for moths and butterflies. While many sedges prefer moist conditions in shade/partial shade, some will tolerate dryer conditions in more sunlight. Prior to our foundation planting project, we had included two different types of sedges along our front walk, a dry area with 5-6 hours of full sun. Blue wood sedge (*C. flaccosperma)* grew very full but tended to turn brown as the summer wore on. The second sedge, Pennsylvania sedge (*C. pensylvanica),* was better able to withstand the sunny, dry conditions. Although both types would probably be happier with more shade, **we decided to transplant *C. penslvanica* into the foundation bed** to act as a ground cover to reduce the need for mulch, and to provide food and cover for native insects. It has adapted well and **has not been bothered by deer.** For more information, also see this article in the June 2019 issue of *The Garden Shed*.

PLANTS NATIVE TO VIRGINIA

Many gardeners are now aware of using plants not just native to North America, or even to a region, but to areas more specific to locally defined areas. Inkberry (*Ilex glabra*), American holly (*Ilex opaca*), Virginia sweetspire (*Itea virginica)*, smooth or wild hydrangea (*Hydrangea arborescens*), switch grass (*Panicum virgatum*), mountain laurel (*Kalmia latifolia*), Pennsylvania sedge (*Carex pensylvanica)*, and blue wood sedge (*C. flaccosperma*) are all **native to Albemarle County**. See the Piedmont Virginia Native Plant Database.

DWARF OR COMPACT SHRUBS

Although our goal was to include native plants, many of the native shrubs we chose grow quite large at maturity. This meant that **dwarf varieties** were a welcomed addition. We chose **cultivars that kept the green-colored foliage of the species,** since work by Doug Tallamy has shown that the burgundy, purple, and other colored foliage of cultivars may not be as attractive to native caterpillars. For more information on compact cultivars, see this article in the October 2022 issue of *The Garden Shed.*

SUMMARY

Our goal was to change an out-of-date, overgrown foundation bed into **an attractive, native-plant-based design that would also be productive.** Productive means that the plants would support native insects, act

as larval hosts to native moths and butterflies, and provide rich sources of nectar and pollen. The landscape would also provide food and cover for birds and other wildlife. Of course, we also wanted to create a beautiful setting for our home that would highlight the natural features of our landscape and beckon us outside.

FEATURED PHOTO *Panicum virgatum* 'Shenandoah' planted in place of dwarf nandinas. Photo: Susan Martin

SOURCES

"Inkberry—A Native Evergreen Shrub," *The Garden Shed*, April 2022.

"Inkberry Holly," University of Maryland Extension.

"Virginia Sweetspire," *The Garden Shed*, June 2017.

"Fothergilla – An Outstanding Choice for Fall Color," *The Garden Shed*, November 2017.

Albemarle County Native Plant Search

"Wild Hydrangea for the Mid-Atlantic Region," Mt. Cuba Center Research Report

"Oakleaf hydrangea," *The Garden Shed*, November 2016

"Kalmia latifolia," NC State Extension

"Panicum Virgatum," NC State Extension

"The Sedge Alternative," *The Garden Shed*, June 2019

"Compact Versions of Commonly Grown Trees and Shrubs," *The Garden Shed*, October 2022

"Changing the PH of Your Soil," Clemson Cooperative Extension

Ladybird Johnson Wildflower Center, Native Plants Database

How to Grow Potatoes

By Chris Stroupe | November 2022-Vol.8, No.11

Fans of the Matt Damon movie “The Martian” know that potatoes (*Solanum tuberosum*) thrive in even the most inhospitable conditions. Indeed, potatoes were first cultivated in the Andes, at elevations where maize can’t grow.

Potatoes are tubers, modified underground stems (not roots) that store energy as starch. They’re also full of protein, fiber, and vitamin C. Moreover, potatoes are virtually fat-free, so add a little butter to mashed potatoes without guilt.

This article will discuss how to grow potatoes on *terra firma*, from planting to harvest. It will also cover pests and diseases, and offer ideas on how to store and cook your potatoes.

Potato varieties

Potatoes are usually categorized as starchy or waxy. Starchy potatoes have thick, edible skins and are best for baking, mashing, and frying. The flesh of starchy potatoes contains little water and doesn't stick together when cooked, yielding the dry, fluffy interior of the perfect baked potato or French fry. Waxy potatoes are low-starch and are usually boiled or roasted. Their flesh holds its shape upon cooking, making them ideal for salads and gratins. Some varieties, like Yukon Gold, have moderate starch levels and are sometimes called "all-purpose potatoes".

Serving suggestion. Photo: National Institutes of Health (Public domain image)

Varieties also differ in size, shape, and color. Fingerling potatoes, even at maturity, are small and elongated. In other words, they're different from new potatoes, which are harvested before maturity. New potatoes have thin skins and little starch, and can be of any variety. Both skin and flesh may be white, red, yellow, or blue/purple. The color of the skin doesn't necessarily match the color of the flesh: some varieties have blue, red, or yellow skin and white flesh.

Note: Sweet potatoes are from an entirely different family of plants; they're covered in this article by Piedmont Master Gardener Cleve Campbell.

Seed potatoes

Virtually all potato plants are grown from cut-up potatoes, called “seed potatoes.” New plants emerge from the “eyes” (embryonic stems; see picture) in the seed potatoes. Garden stores and catalog or online sellers stock seed potatoes in early spring. It’s essential that the seed potatoes are certified free of fungal and viral diseases.

Eye eye. Photo: Donna Marijne, CC BY-SA 2.0

Making seed potatoes from uncertified tubers is risky because it can spread disease. Moreover, most store-bought potatoes are treated with a chemical that inhibits sprouting. Nevertheless, this document describes the process for cutting, curing, and storing seed potatoes.

Soil preparation

Potatoes need loose, well-drained soil to develop properly. If planting in a bed for the first time, work four inches of compost into the top 12 inches of soil. This is a lot of compost, and a lot of work, but the improved soil texture will be worth it. In future seasons, consider the no-till methods described in this article by Piedmont Master Gardener Ralph Morini about Fern and Cleve Campbell’s home garden. At the very minimum, loosen the soil with a broadfork or pitchfork before planting.

A soil test is also a good idea, to ensure optimal nutrition and pH. Potatoes grow best at a slightly acidic pH, between 6.0 and 6.5. The soil test results will include instructions for amending the soil.

Seed potatoes, ready to be covered with soil. Photo: Woodley Wonderworks, CC BY 2.0

Planting potatoes

Plant once the soil has warmed to 55°F during daytime and stays above 45°F at night. Potato plants are cold-tolerant, so it's okay to plant 2-4 weeks before the last hard frost is expected. This document shows last frost dates and recommended planting dates for Virginia (PDF link).

Plant seed potatoes in furrows 3-5 inches deep, cut side down (see photo). Space the seeds according to the type of potato. For fingerlings or new potatoes, plant 10 inches apart; for really small new potatoes, as close as 8 inches. For larger (but fewer) potatoes, plant 12 inches apart. Spacing greater than 12 inches will make the tubers grow too fast, resulting in a "hollow heart," an open space at the center of the potato.

Finish by filling the furrows with loose soil. Rake to break apart clumps, if needed, and water well to ensure contact between seed and soil.

Cultivating potato plants

Potatoes need one inch of water (2.5 quarts per square foot) per week. If irrigation is needed, water deeply once or twice per week. Mulch, such as grass clippings, will preserve soil moisture and keep weeds at bay.

Potato plants after hilling. Photo: Willem van Aken, CSIRO, CC BY 3.0

As the potato plants grow, pile soil around their bases, up to an inch from the lowest leaves. Start when the plants are six inches high and repeat every 2-3 weeks. This process, termed "hilling," will keep developing potatoes in the dark and prevent them from turning green, which causes toxic alkaloid compounds to form under their skin (PDF link).

Weed with a hoe just under the surface of the soil, to minimize damage to the tubers. As mentioned above, mulch can reduce the need for weeding.

Alternate planting methods: straw and containers

Growing potatoes in Virginia clay is difficult, even with well-tended soil. One workaround is to grow them in straw on top of the soil. (Here's another description of the method.) First, loosen the soil to allow good root penetration. Next, put seed potatoes on top of the soil, cut side down and spaced as discussed above (see picture). Finally, pile straw six inches deep on top of the seeds and water thoroughly (see picture). As the plants grow, add more straw to keep the developing tubers covered. By fall, the straw could be two feet high.

First, lay the potatoes on top of the soil. Photo: Hindman Settlement School, Grow Appalachia. © 2015 Berea College

Then, cover with straw and water thoroughly. Photo: Hindman Settlement School, Grow Appalachia. © 2015 Berea College

Potatoes also grow well in containers, like a 15-gallon bucket with drain holes in the bottom. Start with four inches of potting soil in the bottom of the container. Put 3 or 4 seed potatoes – or fewer, for large baking potatoes – on top of the soil, then cover with four inches of soil. As the plants grow, add soil as described above. Depending on the soil mix, it might help to scatter a tablespoon or two of 10-10-10 fertilizer on top of the soil each time you add more.

Diseases and insect pests

Preventing diseases is essential: once diseases set in, they're virtually impossible to cure. Certified disease-free seed potatoes are the best way to prevent potato diseases. Another useful method is crop rotation. Potatoes are in the Solanaceae (nightshade) family, along with tomatoes, peppers, tomatillos, and eggplant. All of these crops are susceptible to similar diseases and insects. To block transmission, plant potatoes where no Solanaceae have grown for two years. Also, planting into loose, well-drained soil will prevent root rot. Finally, practice sanitation: clean up plant litter after the growing season. This will remove disease sources and deny insects a place to over-winter.

In a home garden, it's best to simply remove diseased plants. Common diseases affecting potatoes are: early and late blight (black lesions on leaves and tubers), Verticillium wilt (early yellowing and drooping), and viruses (mottled and/or curled leaves).

Insects can usually be controlled if they're detected early. Remove Colorado potato beetles and their orange eggs (see pictures) by hand. Also look for cutworms (see picture), which sever stems at soil level. If one plant is attacked by cutworms, protect the others with aluminum foil "collars" around their bases. Finally, aphids suck the sap from plants, causing leaves to curl. More seriously, aphids can spread viruses. Personally, I've had success using neem oil to control aphid infestations. The VCE Pest Management Guide (PDF link) lists other treatments for serious insect problems.

Cutworm larva. Photo: Clemson University – USDA Cooperative Extension Slide Series , Bugwood.org

Colorado potato beetles working hard to defoliate a plant. Photo: David Cappaert, Bugwood.org

Colorado potato beetle eggs under a leaf. Photo: Whitney Cranshaw, Colorado State University, Bugwood.org

Harvest

Timing of harvest depends on the variety. Harvest new potatoes 50-60 days after planting, or when they reach the desired size. Harvest mature potatoes two weeks after the plants die back in the fall (see picture). If the plants are still growing in early fall, cut them back to six inches above soil level; this promotes maturation of the tubers. Harvest after the first light frost, but before the first heavy frost.

Harvest time Photo: Philip Halling, CC BY-SA 2.0

Harvest carefully to avoid damaging the potatoes. Push a spade, pitchfork, or broadfork into the soil a foot from the stem, then gently pull back to push the root system upward and expose the tubers. Continue doing this around the plant, or down both sides of a row. Shake or brush most of the dirt off the potatoes, but don’t scrub, which can damage the skin of even mature potatoes.

Storage

New potatoes don't store well and should be eaten within a few days of harvest. Before storing mature potatoes, cure them at 50-60°F at high (90%) humidity for 1-2 weeks, until the skin has thickened a bit. Long-term storage should be in the dark at high humidity, ideally at 45-55°F. If a root cellar isn't handy, keep potatoes at cool room temperature, for example in a basement. The refrigerator isn't the best place for storing potatoes: it's too cold. Regardless, be absolutely sure to store potatoes in the dark, to keep them from turning green and generating toxic alkaloids.

Cooking with potatoes

Probably my favorite way to prepare potatoes is to grill or boil new potatoes or fingerlings, then toss with butter and fresh rosemary or herbes de Provence. Mashed potatoes, particularly with plenty of sour cream mixed in, are nearly as tasty. Consider steaming the potatoes, rather than boiling them, before mashing. A cheesy potato gratin is a little more work, but well worth it. Bakers can use potato flour or mashed potatoes for soft, moist bread and rolls. And last but not least, French fries are messy to cook but not impossible for the motivated home cook. They're great with ketchup, and even better with a garlicky aioli – don't miss Cleve Campbell's article on growing garlic.

References and further reading

On Food and Cooking (1984, Harold McGee)

The Oxford Companion to Food (1999, Alan Davidson)

Aphids in home yards and gardens University of Minnesota Extension

Colorado potato beetles in home yards and gardens University of Minnesota Extension

Cutworms in home gardens University of Minnesota Extension

Early blight in potato North Dakota State University

Foods indigenous to the Western hemisphere: Potatoes American Indian Health and Diet Project

Grow your own potatoes Oregon State University Extension

Growing potatoes in the home garden University of Minnesota Extension

Home grounds and animals pest management guide (PDF link) Virginia Cooperative Extension

How to grow potatoes in straw Missouri State University

Late blight in potato North Dakota State University

Potato facts: Selecting, cutting, and handling seed potatoes University of Maine Cooperative Extension

Potatoes Cornell University

Potatoes are easy and fun to grow in containers University of California Agriculture and Natural Resources

Seed potato handling, transplant, sanitation, and weed control Utah State University Extension

Verticillium wilt (potato early dying) Oregon State University

Virus and viroid diseases of potato Cornell University

Upcoming Events

By Cathy Caldwell | November 2022-Vol.8, No.11

Invasive Vines Workshop with Blue Ridge PRISM at the Botanical Garden of the Piedmont

Saturday, November 12, 2022 @ 1:00 – 3:00 pm

Register here. Registration is free. There will be a limit of 25 participants.

Join Blue Ridge PRISM's knowledgeable staff on the grounds of the Botanical Garden of the Piedmont to learn how to identify and control some common invasive vines during the late autumn/early winter. We will cover basic management strategies, including manual and/or chemical control techniques.

This workshop will take place *outside*– so dress warmly if the weather indicates. Long pants and closed-toe shoes are required to participate. You might want to bring work gloves, safety glasses, and the following tools (optional): hand pruners, hatchet, loppers.

Tree Walk with the Tree Stewards: Stokes Farm Fruits & Nuts of Fall

Saturday, November 12th @ 10 to 11:30 a.m. Register here

Join tree steward Phil Stokes at his acreage in western Albemarle Co. for an enjoyable walk through a well preserved and highly diverse woodland to see naturally occurring winterberry, spicebush, and dogwood laden with red berries.

Garden Basics: Why and How to Reduce Chemical Use in Your Yard and Garden

November 19 @ 2:00 pm – 4:00 pm. **FREE**

Integrated Pest Management is a great approach to creating a resilient garden and healthy home landscape. You will learn: why reducing chemical use is important; the basic issues with commonly used insecticides, herbicides, and synthetic fertilizers; how to follow Integrated Pest Management . . .

Find out more »

Garden Basics classes are offered by Piedmont Master Gardeners in partnership with the Bread and Roses ministry at Trinity Church. Garden Basics classes are **free** and presented in person at Trinity Episcopal Church, 1118 Preston Avenue in Charlottesville.

Registration closes on November 18th.