October 2021-Vol.7, No.10

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Strawberry Basics for the Home Garden

By Patsy Chadwick | October 2021-Vol.7, No.10

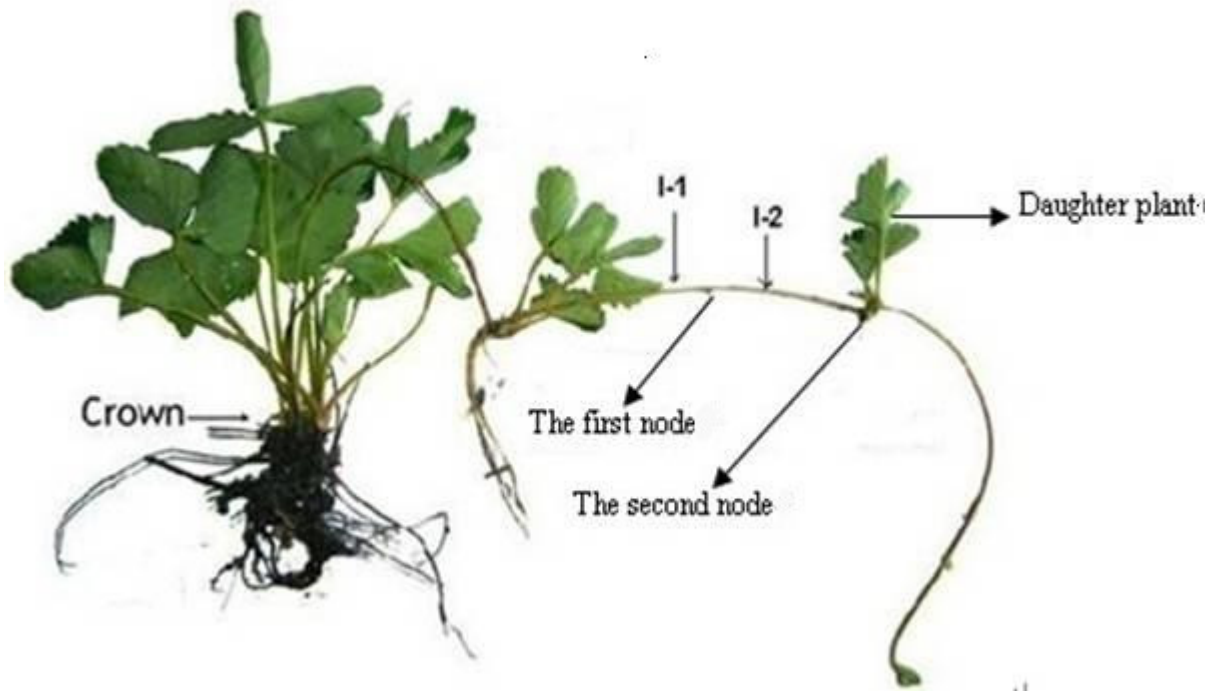
It is no surprise that sweet, fragrant strawberries are the most widely cultivated small fruit in the United States. In fact, annual consumption of strawberries is more than seven pounds per capita, according to the U.S. Department of Agriculture. At only 25 calories per half cup, this low-calorie fruit is an excellent source of vitamins, minerals, fiber, anthocyanins, flavonoids, and phenolic acids. That's the good news. The bad news is that the fruits are soft and highly perishable.

Most strawberries consumed in the U.S. are grown commercially in California or Florida and shipped all over the country. To compensate for their fragile nature, the berries are harvested for shipping before they are fully ripe, which impacts the flavor. Once picked, they do not ripen further. Also, most commercially grown strawberries are reported to be heavily sprayed for pests and diseases. Growing your own strawberries allows you to pick them at their peak of flavor and control what chemicals, if any, to use on your plants.

Ripe strawberries ready to be enjoyed. Photo: Pixabay

ABOUT STRAWBERRIES

The strawberries we enjoy these days are the result of a cross (*Fragaria x ananassa*) that occurred in the late 1700s between our wild native Virginia strawberry (*Fragaria virginiana*) and a variety from South America (*Fragaria chiloensis*). This happy marriage of the two species ultimately resulted in literally hundreds of new strawberry cultivars that are widely distributed globally. The plants are herbaceous perennials with an anatomy and growth habit that are unique among fruit plants as the accompanying photo indicates:



Strawberry plant showing stolon and daughter plants. Photo: CC-2.0-Generic

- **Crown** – This is essentially a compressed stem that produces leaves, roots, stolons, and flowering fruit stalks.
- **Foliage** – The leaves are trifoliate, which means they consist of three leaflets. They grow low to the ground and can form a very attractive ground cover over the growing season.
- **Roots** – Although they grow to about 6 inches deep in the soil, most of a strawberry plant's roots are contained in the top 3 inches of soil, which makes the plant susceptible to both drought and

excess moisture conditions.

- **Stolons** – Commonly referred to as runners, stolons are unique, specialized stems that grow horizontally from buds at the base of the leaves. They spread out or "run" above ground and produce clones ("daughter" plants) at nodes spaced at intervals along the leafless stems. This is how strawberry plants propagate themselves.
- **Flowering Fruit Stalk** – This structure, which is called an inflorescence**,** produces flowers followed by fruits about 30 days later. The terminal (end) flower blooms first and produces the largest berry, which is called the "king" berry. The remaining flowers open sequentially producing berries that are slightly smaller than the king berry.

TYPES OF STRAWBERRIES

Strawberry plants are categorized as either **June-bearing (short-day)** or **day neutral**. They may look identical, but they differ in growth habits as well as flowering and fruiting characteristics. The type you choose to grow depends on your anticipated uses for them.

June-bearing (short-day). This is the most popular type of strawberry grown in the U.S. The "short-day" name refers to the conditions under which the plant forms flower buds. The buds are formed in the fall when days are shorter than 14 hours or when temperatures are below 60°F. June-bearing plants produce one large crop of large, juicy berries over a period of several weeks during May or June. The actual dates when the berries are ripe may fluctuate from year to year depending on weather conditions and the cultivar being grown. By planting several cultivars of June-bearing strawberries, it's possible to extend the season a bit. For example, **Camino Real** ripens early to mid-season followed by **Chandler** and then **Flavorfest** with some overlap between cultivars.

Once June-bearing plants finish fruiting, they spend the rest of the growing season producing lots of runners, which result in new "daughter" plants with their own leaves, flower buds, and fruits.

Advantages of growing June-bearing cultivars:

- They produce one large crop over a short period of time, which is advantageous for processing large batches of berries for jam or preserves or for freezing them.
- They bear the largest fruits of the strawberry types.
- They generate a lot of runners, which produce lots of new plants.
- They produce for about three years on average before they become non-productive.

Disadvantages of growing June-bearing cultivars:

- The blossoms should be pinched off the first season to allow the plants to develop strong root systems and vigorous shoots. This means no fruit the first year but a bigger and better harvest the following years.
- A late frost can damage the blossoms, particularly of the earliest blooming cultivars.
- They produce a large crop of fruit for only a few weeks, but then they are done for the season.
- The beds need to be rejuvenated periodically to keep the plants productive.

Day-neutral. This type of strawberry is not influenced by day length. In other words, day-neutral plants bloom and set fruit throughout the entire growing season, which is good news for strawberry lovers who want a steady supply rather than one large crop in June. The plants do stop producing flowers and berries when summer temperatures are above 86°F, but they start producing again once temperatures cool down. Day-neutral strawberries are smaller than the June-bearing type because the plant must exert a lot of energy to continue producing throughout the growing season. Blossoms should be removed from first year

plants through June. As of July, the plants should be allowed to bloom and set fruit for the rest of the growing season. That way, you get a strong, vigorous plant as well as a crop of berries from late summer through fall of the first year. In their second year, day-neutral plants start producing a medium-size crop about the same time as the June-bearing varieties. Then, they produce another small crop around mid-summer and a third crop in late summer through fall. **Albion, Tristar**, and **San Andreas** are examples of day-neutral cultivars.

Advantages of growing day-neutral cultivars:

- They produce a good yield the first growing season they are planted despite having blossoms removed in the early part of summer.
- They bear fruit throughout the growing season well into fall.

Disadvantages of growing day-neutral cultivars:

- Although this is not necessarily a disadvantage, the berries are smaller than those of the June-bearing type.
- The plants generally last only one or two years before they need to be replaced. In fact, commercial growers tend to treat day-neutral plants as annuals.
- The plants don't produce as many runners as the June-bearing type.

Everbearing. There is some confusion between day-neutral strawberries and a type called "everbearing." The two terms are sometimes used interchangeably because both types produce more than one crop per year. Despite the name, everbearing cultivars produce only two crops of strawberries per year – one good-sized crop in early summer and a smaller one in late summer with a gap between the two. Also, this type doesn't produce many runners. Everbearing cultivars have been largely replaced by newer day-neutral cultivars that bear fruit all season long, produce more runners, are more productive, and produce better quality fruit. **Ozark Beauty** and **Quinault** are examples of the everbearing type.

Alpine. This is a type of day-neutral strawberry that grows all season long, but it is a different species altogether (*Fragaria vesca*). This European variety looks similar to the tiny wild strawberries that grow here in the U.S. The fruits are very small and cone-shaped with an intense strawberry flavor. They don't spread by runners like other varieties do, so the plants are easier to manage. Alpine strawberries are not typically grown commercially because the fruit is too small and fragile. However, because of their remarkable flavor, they are worth trying in the home garden. **Alexandria** is an example of an Alpine variety.

CULTURAL REQUIREMENTS FOR GROWING STRAWBERRIES

Strawberry plants are compact in size and take up very little space in the garden. They are ideal for homeowners with limited garden space to grow. The plants can be grown in a pot on a sunny patio, a window box, a hanging basket, a barrel, a strawberry pot, or in a pyramid shaped planter, which can be designed to fit the available space.

Whether you plan to grow strawberries in a traditional garden bed, a raised bed, or in some type of container, the cultural requirements are fundamentally the same.

- **SITE** – Strawberries require full sun all day or at least 8 hours. So choose a sunny site that drains well. The site should also be free of low spots that trap frosty air in early spring when the plants are in bloom. A south-facing gentle slope or the top of a hill is ideal.
- **SOIL** – Strawberries produce best in fertile soil with a pH of 5.9 to 6.5. The soil should be loose, free of clods, and free of weeds. Because good drainage is essential for strawberries, the soil

should be amended with compost or other organic matter to improve drainage. Excess moisture at the root zone can promote fungal diseases and deprive the roots of oxygen needed for respiration purposes. For this reason, most sources recommend planting strawberries in raised beds or berms.

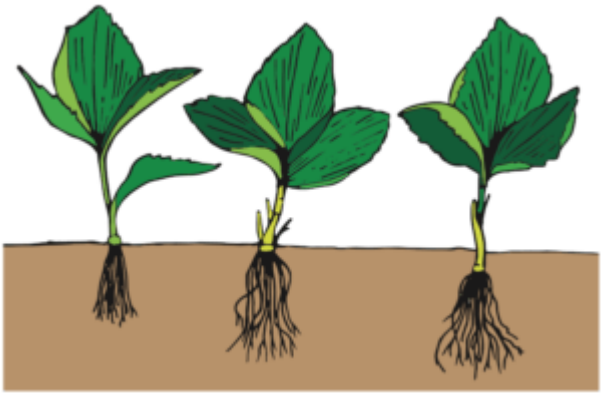
- **WATER** – Because of their shallow root system, strawberries require about 1 to 1-1/2 inches of water per week. This is particularly important for day-neutral strawberry varieties. Provide supplemental water, preferably through drip irrigation, as needed to dampen the soil to a depth of 6 to 8 inches. **Proper moisture levels are particularly important at several critical times during the life of a strawberry plant**: (1) when newly installed plants are getting established, (2) when berries are sizing up before and during harvest, and (3) in late summer through fall when the buds for next year's fruits are forming.
- **NUTRIENTS** – When starting a new strawberry bed, have the soil tested several months in advance and amend it based on test results. In the absence of a soil test, about two or three weeks before planting strawberry plants in a new bed, broadcast four pounds of balanced (10-10-10) fertilizer per 100 linear feet of row.
- **MULCH** – A 2- to 4-inch layer of organic mulch, such as straw (from whence this berry gets its name) placed around the plants will help control weeds, conserve moisture, and prevent ripening fruit from touching the soil.

ESTABLISHING A STRAWBERRY BED

The Virginia Cooperative Extension advises planting virus-free strawberry plugs in late fall or dormant crowns in early spring about three to four weeks before the average date of the last frost, which is generally April 15 to 25 in USDA zone 7a. If you can inspect plants before you buy them, look for specimens with a crown diameter of at least 1/2" or more. Plants of that size will establish faster and produce runners sooner than plants with a smaller crown diameter.

Before planting the plugs or crowns in the prepared bed, make sure they are well hydrated and not dried out. A soaking in water for about 1/2 hour before planting may be beneficial.

Space plants at least a foot or more apart in rows that are about 2 to 3 feet apart. Position each plant in the planting hole so that the base of the crown is **at soil level** and the roots are just covered with soil. The idea is to avoid planting the crowns too shallowly or too deeply. Before covering the roots with soil, spread them out, backfill with soil, and then firm the soil over the roots to prevent air pockets.



Plant strawberry crowns at soil level (middle plant).
Source: VCE Publication 426-840

HARVESTING STRAWBERRIES

Strawberries are normally ready for harvest about 30 days after bloom. Once a strawberry turns completely red with no white showing, the color signals that the sugar content is at its highest and the flavor is at its peak. Resist the temptation to pick a berry that still has a white spot at the tip. Once picked, the berry will not continue to ripen and will not be as flavorful as a fully ripe specimen.

This strawberry is not yet ready for picking. Photo: Pixabay

To avoid bruising the fruits as you harvest them, don't grasp and tug them from their stems. Instead, either pinch or snip them from the stem. Leave the green caps attached as well as a bit of the stem. This helps prolong the life of the berry. Harvest all ripe berries, even the spoiled or damaged ones. Any ripe ones left on the vines are an invitation for insect infestations and fungal diseases.

Because strawberries are fragile and easily bruised, don't pile them too deeply in containers. Refrigerate the berries unwashed until you are ready to use them. Then, gently rinse and pat them dry just before using.

SEASONAL CARE OF THE STRAWBERRY BED

To keep a strawberry bed healthy and productive throughout the growing season, monitor it for moisture and nutrient requirements, look for signs of insect or pest damage, and keep it weeded and otherwise well maintained. A general maintenance schedule is provided below. Adjust the schedule as needed to accommodate weather and growing conditions.

MARCH:

- Early spring is normally the ideal time to establish a new strawberry bed once the soil is dry enough to be worked. However, if the weather is colder or wetter than normal, wait until a little later in spring when conditions are more conducive.
- For established strawberry beds, leave mulch in place to protect the plants from a dip in night-time temperatures.

APRIL:

- Remove the straw mulch from established strawberry beds when the plants resume growing. Move the mulch aside where it will help block weeds and keep the berries clean from rain splash up and mud. In the event of a late frost, spread the mulch back over the plants to protect them from freezing.

- Check older June-bearing plants for new roots that have formed higher on the crown of the plant and are exposed above ground. Mound some soil over the exposed roots to help support the base of the plant and provide good contact between the roots and the soil.
- Start controlling weeds as soon as they appear in spring and continue to monitor throughout the entire growing season. With the onset of warmer weather, weeds become an issue in the strawberry bed because they compete with strawberry plants' shallow roots for moisture and nutrients. They may also harbor pests and diseases.
- As plants start to bloom in April or May, top dress the bed with compost, well-rotted manure, or an organic fertilizer.

MAY:

- Check that there's enough mulch around the plants to keep the ripening berries off the soil.
- To protect ripening fruit from birds or other wildlife, such as deer, rabbits, mice and voles, drape plastic bird netting over the rows and secure around the edges to prevent access to the berries.

JUNE:

- Harvest ripe strawberries early in the day after they have dried off from dew.
- Inspect the strawberry bed daily for any signs of insect damage or disease.
- Remove any spoiled or rotting fruits.

JULY:

- Inspect strawberry plants for any unhealthy (diseased) crowns and remove them.
- To keep plants neatly contained within rows, position runners so that they can root within the row. Let them continue growing until the row is about two feet wide.

AUGUST:

- Monitor moisture and provide supplemental water as necessary. Lack of water now affects the yield of next year's berry crop.

SEPTEMBER:

- Continue monitoring moisture levels and provide supplemental water if the weather is dry.
- Keep monitoring and removing weeds as they appear.

OCTOBER:

- For a fall planting of strawberries, October is ideal while temperatures are still warm. The plants will have plenty of time to develop good strong roots before doing dormant in winter.
- If you plan to plant strawberries next spring instead, this is a good time to prepare the planting site so that the soil will be loosened and free of rocks and weeds.

NOVEMBER/DECEMBER:

- Give the entire bed a final weeding to help reduce weeding requirements for next spring.
- After strawberry plants go dormant, which is generally late November or December, apply a 2- to 4-inch layer of straw over the bed. This will help protect the plants from cold weather, fluctuating temperatures, and soil heaving.

TROUBLESHOOTING

PESTS – Strawberry plants may be bothered by aphids, mites, Japanese beetles, thrips, slugs, and snails. To minimize damage, practice good garden sanitation by removing weeds, grass, and plant debris. Organic solutions include handpicking pests such as beetles, slugs and snails or directing a strong spray of water to dislodge aphids, mites and other smaller pests. Use floating row covers to protect plants from Japanese beetles. Avoid planting strawberries near onions or garlic, which might attract thrips. For extensive information on common pests and diseases of strawberry plants with lots of good photos, visit the plantvillage.psu.edu/topics/strawberry website.

DISEASES – Fungal diseases such as Verticillium wilt can also be an issue. Many problems can be avoided or greatly reduced by buying certified disease-free plants from a reputable nursery. Also, good air flow and elevation above grade in raised beds help reduce fungal diseases. Avoid siting a new bed for strawberries where you've grown black raspberries or members of the nightshade family (tomatoes, potatoes, peppers and eggplant) that experienced problems with Verticillium wilt in the past. Place straw around plants to keep ripening berries from touching the soil. Keep the plants picked of all ripe and rotting fruit and remove any foliage that appears diseased. As plants begin to decline, which usually occurs after about three years, replace them with new plants. For more information on common fungal diseases of strawberries and recommended treatments, see Clemson Cooperative Extension publication on *Growing Strawberries* HGIC-1405.

REJUVENATING A STRAWBERRY BED

Well-tended June-bearing strawberry plants produce lots of runners, which can grow into a thick mat of roots and foliage. As the bed becomes crowded, the plants produce smaller berries that can be difficult to find under the heavy foliage. To solve the problem, rejuvenate the bed about every three years. This should be done soon after the harvest is finished so that the plants have time to develop new leaves and set flower buds for next year's crop.

To rejuvenate a June-bearing strawberry bed, start by removing any mulch and weeds from the bed. Clip or mow the tops of the plants to within 1" to 1-1/2" of the crown. Rake up and remove all clipped foliage. If you plan to keep the plants in rows, use a hoe, spade, or hand trowel to narrow the rows to about 12" wide. Thin the plants within the rows to one every 6" to 8" apart in all directions, removing the oldest (mother) plants but keeping the healthiest and most vigorous of the runner (daughter) plants. Fertilize the plants with a quickly soluble nitrogen fertilizer such as ammonium nitrate at 0.25 to 0.50 pound or apply 1 to 2 pounds of a balanced 10-10-10 fertilizer per 100 feet of row and water in well. This will promote robust new top growth and new runners. As runner plants emerge, reposition them as necessary so that they stay within the rows. Keep the bed weeded and give the plants at least 1 inch of water per week during dry spells. Renew the mulch with the onset of freezing weather.

SUMMARY

The merits of growing your own strawberries can't be overstated. Because the plants are so small relative to other fruits, even the homeowner with no available gardening space can grow strawberries in a container. If you're not sure what type of strawberry to grow, experiment. Grow several cultivars that produce fruit early, mid, and late season. The time and effort put into getting strawberries off to the best possible start will reap sweet rewards. Good siting, good disease-resistant cultivar choices, proper plant density, and good maintenance are all key to keeping a strawberry bed healthy, productive, and enjoyable for years to come.

Cover photo of strawberries in basket: By Pat Scrap from Pixabay

SOURCES

"Homegrown Berries," A Timber Press Growing Guide (Timber Press, 2014)

"The Strawberry Growing Master Manual," strawberryplants.org website

Growing Strawberries, Clemson Cooperative Extension Publication HGIC 1405

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Growing Strawberries in the Home Garden, Rutgers Cooperative Extension Fact Sheet FS097.

Renovating Strawberries in the Home Garden, The University of Tennessee Agricultural Extension Service Publication SP284-B.

Small Fruit in the Home Garden, Virginia Cooperative Extension Publication 426-840.

Strawberry, Plantvillage, https://plantvillage.psu.edu/topics/strawberry/infos

The Clark Garden — A Backyard Woodland Oasis

By Cathy Caldwell | October 2021-Vol.7, No.10

I first encountered the garden of Gail and Hal Clark on a “Through the Garden Gate” tour in 2017. These tours of privately-owned gardens in the Charlottesville/Albemarle area are my favorites; they show what can be achieved by a typical gardener, and the Clarks’ garden was no exception. The front yard was dominated by a sunny round garden with lots of colorful blossoms, but the focus of the tour was in back. We were directed to a wide path that led us downhill pretty precipitously. At the bottom of the hill was the first of several paths that seemed to disappear into lush bands of foliage. I would never have guessed that this restful green retreat had once been a wet mess, overwhelmed by stormwater runoff from the hills adjacent to the backyard. It was that runoff, however, that sparked the beginnings of this glorious garden.

The Clark front garden. Photo: Cathy Caldwell

Steps leading to the woodland garden in back. Photo: Cathy Caldwell

The transformation got rolling when the County of Albemarle reached out to the Clarks in September of 2007 with an offer to help tame the "waterway" that regularly ran through their backyard on its way to Ivy Creek. The Clarks then planted about 15 shrubs, including viburnums, pieris, and as Gail says, "unfortunately, mahonia as well." Although these

plantings helped, it was apparent that more were necessary, so the Clarks embarked on a riparian buffer project with help from the Virginia Soil & Water Conservation Assistance Program (VCAP) offered by Albemarle County.

If your yard has a run-off problem, you, too, may want to explore the VCAP, which also serves the City of Charlottesville. Find out more at Thomas Jefferson Soil & Water Conservation District.org and Va.SWCD.org (includes many **photos of projects,** from rain gardens to conservation landscaping to green roofs).

BEFORE: The first plantings in the Clark "waterway" in 2007. Photo courtesy of Gail Clark.

AFTER! Photo: Cathy Caldwell

In this next phase, the Clark

s obtained professional assistance in laying out the beds — curved to give an informal feeling — and in choosing the native plants required by VCAP. This is when the well-known local garden consultant, Cath

y Clary, stepped in. Gail was particularly taken by Clary's collaborative approach, which consisted of "walk-and-talk" meanders through the backyard; possible plants were suggested and discussed as they viewed

the
beds.

After three of these sessions with Cathy Clary, the Clarks proceeded to plant a wide variety of native trees, shrubs, and perennials, including redbud trees (*Cercis canadensis)*, *Clethra alnifolia (*commonly called summersweet or sweet pepperbush), Virginia sweetspire (*Itea virginica)*, bottlebrush buckeyes (*Aesculus parviflora)*, native ginger (*Asarum canadense)*, green and gold (*Chrysogonum virginianum*), foamflower (*Tiarella cordifolia*), ferns, spicebushes (*Lindera benzoin*), and native 'Anabelle' hydrangeas (*Hydrangea arborescens* 'Annabelle', a naturally-occurring cultivar which was discovered in Illinois).

Native hydrangeas in bloom. Photo: Cathy Caldwell

The result of all this consulting and planting: a strikingly beautiful woodland garden! One of the most delightful aspects of the Clark garden is wandering the paths and coming upon an eye-catching vignette. A favorite of mine is the "Japanese Garden" — which is filled with flowing *Hakonechloa macra*, the Japanese forest grass. This is one of the rare ornamental grasses that performs well in shade. It's not a native, but that is consistent with Gail's philosophy of combining natives and non-natives.

The "Japanese Garden"
Photo: Cathy Caldwell

Along a path lined with hostas and ferns. Photo: Cathy Caldwell

Like all gardens, the Clark garden is organic, changing as the canopy expands and neighboring

plants impact each others' growth habits. New plants make for change as well; in fact, Gail has recently expanded the garden, adding a ribbon of new *Clethras*. The Clarks still have the notes that Cathy Clary wrote after each walk-and-talk consultation; in fact, when Gail reviewed them recently, she decided to add plants that

she'd skipped initially — like ninebark (*Physocarpus*).

Spring in the Clark garden — cinnamon ferns, Virginia sweetspires, and blooming foamflowers and hellebores. Photo courtesy of Gail Clark.

I asked the Clarks if they would do anything differently if they were starting fresh today. Gail would remove the eleven *Ailanthus* (Tree-of-Heaven) trees before even beginning the planning process. Her advice to anyone in the starting phase is to be sure to remove all invasives as the first step. Like Gail, Hal would never have planted any mahonias. They were "so worried about deer," that this deer-resistant shrub sounded like a winner, but the Clarks now worry about its invasiveness. Gail says she and the bees like the fragrant spring flowers, but she has been disturbed to see little sprouts of it all over the neighborhood.

Gail Clark on one of the paths next to a Viburnum nudum 'Winterthur', a moisture-loving native cultivar. Photo: Cathy Caldwell

Had any plants become their favorites? For Hal, it's the bottlebrush buckeye, which he loves for its "wild woodland" appearance. For Gail, it's the Annabelle hydrangeas, but not just for their blossoms; she also loves the steady green cloak they provide all summer.

Perhaps it's no surprise that at some point in this gardening journey, Gail took the training to become a Master Gardener. And I had the pleasure of working alongside her with the children's After School Garden Club at a city elementary school. Reconnecting during these pandemic days to talk about the development of this special garden has been a much-needed respite — rather like gardening itself.

A greeter at the entry of a path. Photo: Cathy Caldwell

Newly-planted Clethras. Photo: Cathy Caldwell

SOURCES:

"Hydrangea arborescens 'Annabelle'," Missouri Botanical Garden/PlantFinder

"Japanese Forest Grass, *Hakonechloa macra*," Univ.Wisconsin Ext.

"*Clethra alnifolia:* A versatile native plant in the landscape," The Garden Shed (June 2015)

Through the Garden Gate/Piedmont Master Gardeners Projects, (when tours are reinstated, find details on the Events page of this website)

October in the Edible Garden

By Ralph Morini | October 2021-Vol.7, No.10

October signals the beginning of the end of our outdoor vegetable and fruit growing season. It's the last chance to plant a few short cycle vegetables, harvest frost-sensitive produce before our first frost, document the gardening year, clean up the beds and prepare everything for winter dormancy. Let's dig into the possibilities.

Planting

If you planted crops for fall harvest last month, you may already be harvesting fast-maturing plants like lettuces and radishes. According to the VCE Home Garden Vegetable Planting Guide, those of us in Hardiness Zone 7a are still able to plant baby lettuces, radishes, mustard, and spinach during the first part of the month. With an average first frost date of October 15th-25th and a warming trend that may push it later, late planters have the possibility of another crop before winter.

Watch the two week forecast and plan to protect any sensitive crops ahead of predicted frosts to maximize your harvest.

Frost preparation:

To get a better understanding of frost damage and which vegetables are or aren't susceptible to it, refer to the article Identifying and Preventing Freeze Damage in Vegetables from the Michigan State University Extension.

If you want to nurse plants further into the fall, there are a couple of options:

- **Wet your soil:** there is some evidence that watering ahead of a frost will keep the air temperature just above the soil up to 5 degrees warmer than dry soil and will maintain the differential overnight.

Homemade row covers: Photo: R Morini

- **Cover your plants:** For better protection, cover the crops that aren't cold hardy. Spun polyester row cover fabric is a proven choice, although gardeners use everything from newspapers to buckets to commercially available water-jacketed individual plant covers. Fabric cover protection varies from 2 to 6 degrees Fahrenheit depending on soil conditions and fabric used. Air space between cover and plants increases the protection more than simply laying the cover directly on the vegetation. Spun fabric covers let light and water through and can be left in place. Most other options need to be removed during the day after the temperature is above freezing. For more information on row covers, please check out the *Garden Shed* article: *Row Covers: A Season Extender with Benefits*.

"Large Cold Frame" by Ofer El-Hashahar is licensed under CC BY-SA 2.0

- **Cold Frames**: Cold frames provide a more permanent way to combat both spring and fall frosts. Tips on construction and on using cold frames are available in the Colorado State Extension article Extending the Season with Cold Frames.

Other October Tasks:

- **October is the time to plant garlic and shallots** for harvest next year. For information on garlic varieties, planting, and care, read the Rutgers Extension article Growing Garlic in the Home Garden.
- **Harvest tender herbs** (e.g., basil) before the first frost. They can be hung to dry in a cool dark place or the leaves can be frozen for use at a later time. Plants may also be moved indoors and will continue to produce leaves if stems are trimmed off when starting to flower. Or cut green stems, leaving a couple of leaf nodes, dip the stems in rooting hormone and plant them in potting compound to grow new plants indoors.
- **If you are thinking about planting a fruit tree, fall is a good time to plant**. Water newly-planted trees thoroughly. Add a 3-inch layer of organic mulch, leaving a 3-4" gap around the tree base, to retain soil moisture and moderate soil temperature. Research has shown that roots will continue to grow until the soil freezes, which is typically late November in Virginia. Stake and wire newly-planted trees only if necessary. If staking is necessary, use a piece of rubber hose around the guy wires to protect the trunk. The guy wires should be tied loosely enough so that the tree is able to move a little in the wind. The supports and stakes should be removed once the tree becomes established, usually in a couple of months.
- **Pick up dropped fruit from under fruit trees** so that deer and rodents will not be attracted

to your growing tree. Raking and disposing of diseased leaves will help keep insects and diseases under control next season.

- **High grass and mulch are a haven for rodents** whose gnawing can severely damage trunks. Keep the grass mowed around new trees. **Be sure that mulch is pulled back 3-4 inches away from the base of the tree.**
- **Tomatoes** need an average daily temperature of 65º F or higher in order to ripen. If daytime temperatures are consistently below this temperature, pick the fruits that have begun to change color and bring them inside to ripen. Placing them in a paper bag with a banana or two will speed the process.
- **Harvest sweet potatoes** before frost. Cold soil temperatures can reduce their quality and storage life. Removing the vine first can make the digging easier. Also, take care when digging sweet potatoes. They bruise easily.
- After removing diseased plants or debris, **do not place them on the compost pile.** Unless the compost reaches a temperature greater than 130° F, the pathogens may survive and go back in the soil when the compost is applied. Best to burn or bag and landfill it.

First year asparagus bed before fall trimming. Photo R Morini

- After frost, cut back **asparagus foliage** to within 2 inches of the ground.
- Protect strawberry plants over winter by weeding beds and mulching before temperatures get down to 20° F. Chopped leaves and straw are good mulches. More details are offered in the Iowa State Extension article https://www.extension.iastate.edu/news/yard-and-garden-prepare-strawberry-plants-winter.
- If you haven't done a soil test in a few years, fall is a good time to get one. Organic amendments added in the fall will be ready for plant uptake in the spring. In the Charlottesville/Albemarle area, test kits and instructions are available at the entrance to the County Building off 5th St Extension.
- There is still time to plant a **cover crop**. Cover crops protect the soil over the winter, store unused nutrients to prevent them from leaching, and provide organic matter in the spring when

tilled under or composted. The article Cover Crops from the University of Maryland Extension provides guidance.

Aged wood chips with fungal mycelia, a good winter mulch: Photo: R Morini

- If you aren't into cover crops, or wait too long to plant, cover the garden soil with a few inches of mulched leaves, aged wood chips, or straw. Mulch reduces nutrient leaching and carbon loss and moderates temperature variation while adding organic matter.
- If you haven't kept up with **garden documentation**, this is your last chance. It's a good idea to diagram the garden along with specific crop locations. Crop rotation is an important organic tool for minimizing the transfer of insect and disease problems from one season to the next.
- **Vegetable crops in the same botanical family are often susceptible to the same diseases and insects**. For crop rotation to be effective, gardeners should not plant vegetables belonging

to the same family in the same location for at least three years. Crop rotation in a small garden may be difficult. However, we should rotate our vegetable crops as best we can. You can find a listing of plant families and their members in the Penn State Extension article Plant Rotation in the Garden Based on Plant Families.

Ok, got everything taken care of? Relax. You've earned it. Hoping for a more leisurely visit with you next month at *The Garden Shed*.

Sources:

Phillips, Ben and Collin Thompson, "Freeze Damage in Fall Vegetables: Identifying and Preventing," http://msue.anr.msu.edu/news/freeze_damage_in_fall_vegetables_identifying_and_preventing

October Tips: Fruit and Nuts, VA Cooperative Extension: https://albemarle.ext.vt.edu/content/dam/albemarle_ext_vt_edu/files/hort-tip-sheets/10-14-fruit-nuts.pdf

Garlic Production for the Gardener, UGA Extension, https://extension.uga.edu/publications/detail.html?number=C854&title=Garlic%20Production%20for%20the%20Gardener

Harvesting and Preserving Herbs for the Home Gardener, NC State Extension: https://content.ces.ncsu.edu/harvesting-and-preserving-herbs-for-the-home-gardener

October in the Ornamental Garden

By Cathy Caldwell | October 2021-Vol.7, No.10

Most of the chores on your September to-do list still apply in October – weeding, deadheading, dividing and transplanting perennials, planting new trees and shrubs, weeding, and more. Start your list by checking the PMG/Monthly Gardening Tips/October located in the Gardening Resources section of this website.

Plant spring-flowering bulbs during the first half of this month; it's best to get this done by one month before the first hard freeze. The cooling temperatures of fall are good because they encourage root growth at the base of the bulb and prepare it for a good start come spring. But if temperatures are too cold, the root and shoot growth of the bulb can be adversely affected. So when's the ideal time to plant? When nightime temperatures are staying in the 40°–50°F range. How might this advice be impacted by climate change? That's uncertain, but let's all start noting our observations.

Daffodils
Photo: Cathy Caldwell

If you're not sure which bulbs to plant or how to do it, check out Spring-Flowering Bulbs/The Garden Shed. For a list of deer-resistant bulbs, see Mich.State Ext. The narcissus or daffodil is a favorite for good reasons; not only is it unbothered by deer

or other pests, your cache of bulbs expands and spreads wonderfully.

Fall is the ideal time to plant or transplant most shrubs and trees, though it's NOT the ideal time for planting broadleaf evergreens. But mountain laurel, boxwood, and hollies CAN be planted in the early fall if they are kept moist and mulched. If you'd like to add a flowering tree, consider the options discussed in this new publication from Virginia Cooperative Extension: Selecting Landscape Plants: Flowering Trees. For guidance on choosing the right tree for your yard, take a look at one of these websites:

- Virginia Native Plant Finder (an interactive site that allows you to plug in variables)
- Right Tree-Right Place Tree List/Tree Stewards (comprehensive and local)
- Piedmont Natives Plant Database/Albemarle County.org (searchable)

You can continue to divide perennials that bloom in spring or early summer — at least during the first half of this month. After that, watch weather forecasts closely since you should complete this job by four to six weeks before the ground freezes. For expert guidance, see this recent Garden Shed article: Guidelines for Dividing Perennials.

Cut back perennials with disease or insect pest problems to reduce the chance of infection the following season. Bee balm (*Monarda*) and phlox (*Phlox paniculata*) with powdery mildew are examples. Remember to destroy — not compost — diseased stems and leaves.

October is NOT the time to prune for most shrubs and trees except to remove dead limbs. There are exceptions to every rule; to be sure about the best time to prune your particular shrub or tree, look it up on the Pruning Calendar contained in When to Prune/The Garden Shed.

After the first killing frost, you'll want to cut back most browning perennial foliage, but leave some seed heads for those you want to self-seed or to provide food for wildlife. During the winter, when food is scarce, seed-eating birds, such as finches, sparrows, and chickadees, will dine on the seed heads of Echinacea, Rudbeckia, Helianthus, Coreopsis, lavender, Russian sage, thistles, and grasses. Be sure to cut back hostas and remove all their leaves from the ground as soon as the frost takes them; dead hosta leaves harbor slug eggs.

Leave seed heads in place for annuals or perennials that you want to self-seed; alternatively, you can wait for the seeds to mature and scatter them now in the areas where you hope to see them next spring. Some **annuals and biennials that reseed themselves** include cleome, cockscomb, cosmos, foxglove, hollyhock, larkspur, money plant, sweet William, forget-me-not, Shirley poppy, zinnia, four-o-clock, marigold, and impatiens.

Certain plants do not like to be cut to the ground before winter because the foliage protects their crowns. Plants that like some winter foliage protection include: butterfly weed (*Asclepias tuberosa)*, chrysanthemums, coral bells (*Heuchera sanguinea*), Siberian bugloss (*Brunnera macrophylla*), *Salvia x sylvestris*, lungwort (*Pulmonaria*), bearded penstemon *(Penstemon barbatus*), catmint (*Nepeta*), and Shasta daisy (*Leucanthemum x superbum*). If a perennial is growing new basal leaves, cut off the spent stalks, but don't disturb the base.

This is a good time to attack the invasive autumn olive and oriental bittersweet. Bittersweet leaves tend to remain green in fall after most other plants have changed color or dropped their leaves, so infestations are easy to spot. Also, as autumn proceeds the berries on bittersweet vines become more noticeable as they change from golden to red. Another factor working in your favor is that in fall, sap is moving down toward the roots, so the cut-stump method works well. To use the cut-stump method, you'll need a concentrated form of herbicide to paint onto the stems right after you cut them — as close to the ground as possible, as shown in the photos below (and yes, there is poison ivy in that bed of invasives, along with the bittersweet). There are ready-to-use stump-killer products on the market. For details on the cut-stump method, see Controlling Invasive Plants Effectively & Safely with Herbicides/Blue Ridge Prism.org and Non-Native Invasive Plant Species Control Treatments/Va. Dept.Forestry.

Oriental bittersweet developing fall colors. Photo: Leslie J. Mehrhoff, Univ. Conn., Bugwood.org, CC BY 3.0

Cut-Stump Treatment: First, cut the stem close to the ground. Photo: Cathy Caldwell

Cut-Stump Treatment, Step 2: Paint the stem with herbicide. Photo: Cathy Caldwell

Eliminate invasive tree-of-heaven (*Ailanthus altissima*) to help combat spotted lanternfly, which was recently sighted in our area. It turns out that tree-of-heaven is the favorite plant of spottted lanternflies.

Ready your indoor holiday bloomers for the holidays. By manipulating the amount of light they receive, you can control their bloom schedule. Such plants include: **Christmas cactus, kalanchoe, amaryllis, and poinsettia.** For specific instructions, refer to "The Ornamental Garden in October," The Garden Shed, Oct.

2016.

Does your lawn need a renovation due to the summer drought? For help in answering that question and guidance if renovation is needed, see this new article, Cool Season Lawn Renovation, Va.Cooperative Extension (2021).

SOURCES:

Featured Image: Pink Muhly grass (*Muhlenbergia capillaris*). Photo courtesy of Missouri Botanical Garden PlantFinder, Mo.Botanical Garden Plantfinder/Muhlenbergia capillaris

"Where are my bulbs? Why aren't they flowering?" Michigan St.Univ. Ext

Blue Ridge Prism Invasive Fact Sheets

"Planting a Tree or Shrub," Univ.of Maryland Ext

Moss, Small Wonder Beneath Our Feet

By mking | October 2021-Vol.7, No.10

Moss in Every Nook and Cranny

I've been fascinated by moss for as long as I can remember. As a young child, I loved touching these soft, natural green carpets in the woods behind our home. For me, there's something magical about this tiny non-vascular plant that seems to hug so many varied surfaces near the ground, including rocks, fallen logs, shady patches of soil, tree bark, streambeds, and damp crevices on the forest floor. Surprisingly, mosses are found all over the world in almost every climate and ecosystem, from tropical forests to the Rocky Mountains and Eastern woodlands of the United States, to alpine and polar regions, and even in arid deserts. Indeed, mosses inhabit places where most other plants cannot possibly survive.

In hospitable locations, moss growth may be the dominant plant; photo: Melissa King

Remarkably resilient, these primitive beauties, the first plants adapted to life on land, have been around for 450 million years. With more than 15,000 different types of moss, these miniature specimens have demonstrated exceptional survivability and adaptability over time. How appropriate that George Schenk calls moss "nature's chosen ones" in his informative book titled *Moss Gardening*.

What is moss? What structures keep it alive?

Mosses are classified as *Bryophyta*, along with liverworts and hornworts. Like other green plants, Bryophytes need sunlight, water, carbon dioxide, and minerals to make their own food through the process of photosynthesis. However, certain distinctive botanical characteristics make this group of shade-loving plants rather unique. Instead of a root system, mosses have hair-like filaments called rhizoids that enable astonishingly strong attachment to various surfaces. That makes it possible for moss to cling to boulders and other substrates, defying gravity and growing in every direction.

Clumps of healthy moss growing on large rock along woodland trail; photo: Melissa King

Moss clinging to the edge of a rock; photo: Melissa King

The simple structure of mosses, which lack cellulose to support woody cell walls, does not have a vascular system for transporting water and nutrients. As a result, mosses rely on capillary action and osmosis to gather moisture from their surroundings. In her book, *Gathering Moss*, Robin Wall Kimmerer refers to mosses as masters of minimalism who "engineer the movement of water by harnessing the attraction of water to surfaces — without expending any energy of their own." How clever is that!

Bryophytes such as mosses are poikilohydric, which means that the water content of the plant changes along with the water content of its environment. Mosses tend to live in porous, tightly-packed colonies, which increases their capacity for water collection and retention. And, it's not unusual for several different varieties of moss to live harmoniously in these colonies.

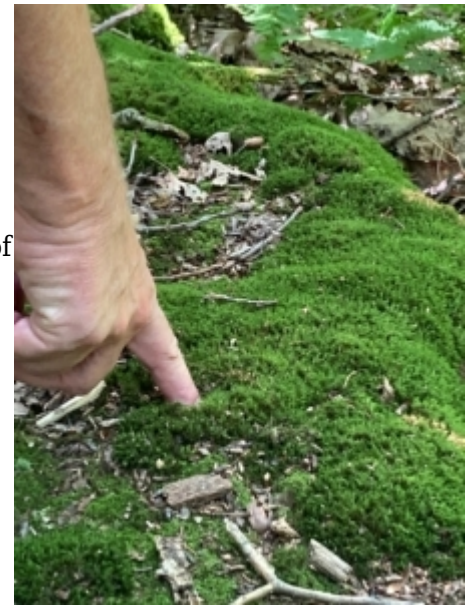
Moss takes advantage of moisture from fallen log; photo: Melissa King

Moss leaves are small and thin (single cell thickness) and have no cuticle, a waxy substance that covers the leaves of most other green plants. This structure allows moss leaves to absorb water from mist, dew, and rain rather quickly and become saturated to sustain life.

Viewed up close, notice the spiky leaves of moss; photo: Melissa King

Moss growth occurs only when moss is wet, but even after losing over 95% of its water content, it can still survive. During those dry times, moss is actually in a dormant phase. Moss plants can remain dormant for a few weeks, months, or even years, depending on the species. Despite looking misshapen and desiccated, moss will generally be revived whenever moisture becomes available. Quite amazing!

Mosses have several other adaptations that enhance their survival in adverse conditions. Due to biochemical substances that protect plants from stress, called internal phenolic compounds, mosses are able to enter a period of dormancy in order to live through subfreezing temperatures and excessive heat. These compounds also make mosses taste awful, which gives them protection from insects and other animals that might otherwise dine on them. In addition, phenolic compounds provide robust protection for mosses against diseases. These impressive strategies help provide robust protection for mosses against desiccation, predation, and disease.



Soft, healthy moss allows fingertip probe of 5 cm (2 in); photo: Melissa King

Moss Reproduction

Sporophytes will emerge from these upward-reaching moss leaves; photo: Melissa King

Unlike familiar flowering plants, mosses do not reproduce with seeds. Instead, mosses have three different methods for reproduction: with spores (sexual reproduction in two stages), with fragments that clone themselves (asexual reproduction), and with gemmae (vegetative reproduction, also asexual).

For sexual reproduction, the process of spore dispersal begins with gametophytes, tiny moss plants that may be either male or female. Male gametophytes produce sperm cells, and female gametophytes produce egg cells, each with only one set of chromosomes. The microscopic male organ, called the antheridium, releases sperm cells that must swim over the wet surface of moss, searching for the microscopic female organ that encases the egg, called the archegonium. As you might imagine, during dry times this method of reproduction may not be successful.

If fertilization occurs, spores that contain both X and Y chromosomes will develop. This creates sporophytes, which form setae, or stalks, that stand upright on the top of moss. Without its own internal method of transport, mosses must rely on natural forces to disperse their spores. Wind and rain are the primary means of distribution, but animal movement may assist in this process. If spores land in hospitable locations, they will grow into new moss plants, continuing the life cycle.

Sporophytes, the second stage of moss reproduction, extend upward from moss leaves; photo: Melissa King

In fragmentation, small pieces of moss that have been torn off and displaced by water, wind, or animals can resettle in new locations and begin to grow into moss that is identical to the parent plant. For those who want to get started with moss gardening, this method, similar to cloning, is a relatively easy way to encourage moss reproduction. In vegetative reproduction, small cups filled with gemmae cells (Latin for jewels) grow on moss stems or leaves. These gemmae, also called propagules, can be dispersed with water, landing in new places. They will then develop into moss gametophytes (described above) to start the life cycle all over again. Awesome that moss reproduces in three different ways!

Moss grows in places where other plants cannot survive; photo: Melissa King

Opportunistic Survivors

Now that you've expanded your knowledge of moss, you might be wondering why it's creeping into the dim north edges of your lawn, surrounding the shady base of trees in your yard, or filling in the dark sidewalk cracks leading to your front door. You probably haven't cultivated that moss, and some of you aren't so sure you want it. Reality check: Moss has a tendency to sneak into places where other plants struggle to get going, and once established, moss is quite hardy.

Moss is often found in dappled light at the base of tree trunks; photo: Melissa King

Before removing moss from those areas, perhaps you should reconsider. After all, moss requires no mowing and little supplemental watering, except in times of severe drought. Moss is naturally disease-resistant, and it requires no chemical treatments that end up polluting waterways and groundwater. Moss tolerates infertile soil, and it stays green all year, even during cold winters. In my mind, moss is an unsung hero that silently slips in to beautify the landscape.

Environmental Benefits

Here's a brief introduction to the countless benefits of this year-round superpower of green delight that shows up all over the world. First of all, mosses play an important role in carbon sequestration, the process by which carbon dioxide is removed from the atmosphere and stored in solid or liquid form. With climate change posing a significant threat to the health of our planet, mosses make a notable contribution as the largest land repository for carbon storage on Earth. For example, *Sphagnum* peatlands sequester between 198 and 502 billion tons of carbon.

Moss, with its strong rhizoids that hold onto the soil, can be a significant factor in erosion control. When planted on hillsides where rushing water is a problem, moss will absorb some of that water and slow the rate of flow. In drainage ditches and other areas where fast-moving stormwater can be problematic, moss can reduce flash flooding and run-off as it captures sediment and decelerates the water flow.

Sphagnum mosses are particularly useful for water filtration and wastewater treatment. Moss can trap oils, detergents, dyes, and other organic matter that should be kept out of rivers and streams. Furthermore, mosses can capture toxic discharge and unhealthy pollutants from public waterways, such as mercury,

copper, silver, and lead. At former mining sites, moss can help the land rebound back to better health by absorbing heavy metals and growing undeterred on barren landscapes. In areas with severe winter weather and frequent use of salt and other chemicals on impermeable roadways, moss can soak up these contaminants and continue to thrive. What an incredible survivor!

Author enjoying a quiet moment with beautiful moss at Deep Creek Lake State Park in Maryland; photo: Richard King

If you need further testimony that moss is not only valuable but also attractive, stroll through nearby damp forests and notice the moss clinging to rocks and climbing up tree trunks. During a recent visit to the mountains of western Maryland, I was astounded by the sight of prolific moss colonies along shady trails. A mystical world of gentle softness surrounded me as I hiked through the woods. Serenity at its best!

Types of Moss

At a basic level, there are two types of moss: clumpers (Acrocarpus species) and spreaders (Pleurocarpus species). Clumpers are ball mosses that form dense, upright, circular mounds or mats. Spores emerge from the top of their vertical stems. These mosses resemble cushions and work well when positioned between rocks or pavers. Spreaders, which grow sideways, look feathery, almost like tiny ferns. Their spores form along the stems. These carpet-style mosses work well as filler for lawns with bare spots or as replacement for turfgrass in shady areas.

Clump of acrocarpus moss that resembles tufts of light green cotton candy; photo:

Melissa King

Identifying mosses is rather challenging because certain important characteristics are microscopic. It's possible to distinguish some features with a good handheld lens, but careful observation and field guide references may be necessary. For those who are eager to try cultivating moss, the following types are relatively easy to grow. Excellent close-up views of these mosses are available at this Bryophyte portal (search by the scientific name of each moss).

New growth on pleurocarpus moss reaches out sideways; photo: Melissa King

- *Brachythecium rutabulum*, or foxtail moss, is a common "spreader" moss that grows in horizontal mats. Given damp northern exposure, this moss will thrive, readily filling in bare spots where grass and other sun-loving plants won't grow.
- *Hypnum imponens*, also called log moss or feather moss, is another "spreader" that grows easily on various substrates, with preference for logs and tree bases. Its individual moss plants are fern-shaped, and they do fairly well during dry periods.
- *Bryum argenteum,* or silver moss, is a "clumper" that grows just about everywhere, from rooftops to pavement cracks, as well as along hiking trails. It tolerates sun and requires only occasional water, so it's a great low-maintenance choice.
- *Dicranum scoparium,* known as broom moss, tends to look windswept. It's an exceptionally soft "clumper" that loves to grow on rock ledges and poor soil. This is a rich green moss that retains its color, even when partially dried out.

Huge boulders “dripping” with deep green moss; photo: Melissa King

Small piece of moss dislodged from base of tree; photo: Melissa King

Gardening with Moss

Anyone dreaming of moss gardens can start by conceptualizing designs that could complement an existing landscape. Begin by asking key questions, such as:

- Where are the shady areas? Are there any spaces where moss would thrive?
- How much moisture is available? Is there a source of water nearby?
- From which directions could mossy patches be viewed?
- On or between which existing surfaces might moss be a good partner?
- Is there room for pathways that allow wandering near beds of moss?
- What other plants would be good companions for moss?

You may also want to have your soil tested because moss likes acidic soil and will do best if the pH is between 4.5 and 5.5. Sulphur or aluminum sulfate, available at agricultural supply stores, can be added to amend your soil, if needed. Be sure to consult reputable sources (see references below) to find out the recommended amounts.

Moss garden of local homeowner; photo: Cathy Caldwell

Moss softens surfaces, capturing a sense of serenity; photo: Melissa King

Browse books or websites with photos of moss gardens to kick-start your design plans. Make draft sketches and revisit your ideas, adjusting them as you continue to dream about the natural tranquility and beauty of moss. When you have a plan and are ready to try cultivation, consider these tips from Dale Sievert, who has spent 50 years creating moss gardens in Wisconsin (see *The American Gardener* citation below).

- **Start small** – Moss is a slow-growing plant, so it's wise to see what happens in patches no more than one or two square feet in size before expanding. Depending on the type of moss you choose, it may take from six months to a year or two for moss to be well-established.
- **Try several places** – Choose appropriate sites in your yard, place moss in those locations, and then determine where moss seems to thrive over a period of time.
- **Use your own** – If possible, gather bits of moss from a few spots on your property and re-plant it where you'd like to begin a mossy patch. For best results, match conditions of the original site with the new site.
- **Anchor them down** – Water the new patches of moss and step on them gently to anchor them in place.
- **Take good care** – Observe fresh moss beds, keep them moist, and remove extraneous sticks, leaves, and other unwanted materials that land on top of the moss. A soft broom may work for this task.
- **Weed carefully** – Moss may be disturbed if you pull up weeds growing within it, so use two hands (one for holding moss down, and one for pulling on weeds) to carefully dislodge young weeds when they first appear.

Feel free to be creative as you consider how, when, and where eco-friendly moss might add graceful patches of wonder beneath your feet. And for those who don't see themselves cultivating moss, consider making friends with the moss that shows up in your yard and just let it be.

Given favorable conditions, moss growth may cover stones in walkways; photo: Melissa King

Moss growing on rooftop in shady spot in the woods; photo: Melissa King

Commercial Sources of Moss

Mountain Moss in Brevard, NC

Moss Acres in Honesdale, PA

Print References

Cullina, William. (2008). *Native Ferns, Moss, and Grasses.* New York, NY: Houghton Mifflin.

Kimmerer, Robin Wall. (2003). *Gathering Moss: A Natural and Cultural History of Mosses.* Corvallis, OR: OSU Press.

Martin, Annie. (2015). *The Magical World of Moss Gardening.* Portland, OR: Timber Press.

Schenk, George H., (1997). *Moss Gardening: Including Lichens, Liverworts and Other Miniatures.* Portland, OR: Timber Press.

"Moss Garden Masterpiece." *The American Gardener.* (Mark Dwyer, Sept/Oct 2020, p. 18-23).

Online Resources

Bryophyte Flora of North America hosted by the Missouri Botanical Garden

Bryophyte Ecology e-book by Janice Glime at Michigan Tech

CNABH Portal Home (bryophyteportal.org) consortium of North American Bryophyte Herbaria

Upcoming Events – October 2021

By Sara Albrecht | October 2021-Vol.7, No.10

CHARLOTTESVILLE AREA TREE STEWARDS

Tree Basics Classes
The fall 2021 lineup of Tree Basics Classes includes:

- **Tree Identification by Season — Fall** Tuesday, **October 5**, 7:00-8:30 p.m. **Register here**.
- **Selection, Planting and Care of Trees** Tuesday, **October 19**, 7:00-8:30 p.m. **Register here.**
- **Winter Invasive Plant Identification and Treatment** (in three parts) Tuesday **November 2,** 7-9 p.m.; Thursday **November 4,** 7:00-9:00 p.m.; Saturday **November 6**: Field trip, Azalea Park

The Fall Tree ID and Winter Invasive Plant classes will each have a field element. You will have the option of joining CATS at a woodland location for walks that will illustrate the material provided in the webinars. Check here for more information: Charlottesville Area Tree Stewards/Tree Basics Classes and Tree Walks.

VIRGINIA NATIVE PLANT SOCIETY

See this LINK for a listing of both virtual and in-person October events hosted by various local chapters of the VNPS, including —

—Seasons at the Quarry Gardens: Wednesday, October 13, 2021, 7:00 – 9:00 pm, Ivy Creek Natural Area – Education Building, 1780 Earlysville Rd., Charlottesville

THE NATURE FOUNDATION AT WINTERGREEN
3421 Wintergreen Drive, Roseland, VA 22967

-October Guided Hikes

For information on guided hikes, difficulty ratings, and to register, please see this LINK to the October calendar.

LEWIS GINTER BOTANICAL GARDEN

Grow Native: Landscaping with Virginia Natives
Zoom Webinar Series
Evenings in October and November
6:30 – 8:00 PM

If you've heard that using native plants in your yard helps improve the environment for everyone, but are not sure why or how to do that, this series of webinars brings you up to speed on ways to turn your

home and garden into a native-friendly, sustainable, and resilient habitat for birds and other wildlife.

Selecting Native Plants for Fall and Winter Interest and Ecology
October 12, 6:30 – 8 p.m.

Common Invasive Plants in Virginia: Identification, Control and Native Alternatives
October 26, 6:30 – 8 p.m.

$10 covers the entire series. Attend each program or pick and choose your topics.
For dates, topics, and to register, see this LINK.

MONTICELLO'S TUFTON FARM

2021 Fall Plant Sale at the Thomas Jefferson Center for Historic Plants
1354 Tufton Farm
Charlottesville, VA 22902
Saturday, October 9
9:00 AM – 3:00 PM

Preregistration will be required; check back for more information later by visiting this LINK. General information for Monticello is (434) 984-9800.

Heritage Harvest Festival Tasting Event
Saturday, October 23
10:00 AM – 12:00 PM

This popular annual event is a unique opportunity to taste and compare heirloom and conventional apples, sample cheese pairings and hard ciders, see Monticello's Tufton Farm, and learn about the history of apples from featured guest speaker Charlotte Shelton of Albemarle CiderWorks.

Tickets are $35 each and space is limited to 75 participants. Children 11 and under attend free. See this LINK for registration information.

WILDROCK

Creepy, Crawly, and Cute Trail Adventure
6600 Blackwells Hollow Road
Crozet, VA, 22932
Dates in October and November from 10:00 AM to 3:00 PM
$20 per reservation

Uncover the haunts of the season on Wildrock's Creepy, Crawly, and Cute Trail! Along the way find spooky spider webs, festive installations, and ghoulish décor. To learn more about this and other trail adventures, see Wildrock Visitor Reservations and Nature Play & Discovery Center. Wildrock Walks are self-guided and timed to promote social distancing. $20 per reservation, scholarships available upon request.
Please note: The trail is moderate difficulty and is not stroller friendly.

Visit this LINK for dates and to register!

BLUE RIDGE PRISM (Partnership for Regional Invasive Species Management)

Seasonal Invasive Plant Workshops:

> One session remaining: Rappahannock County Park Field Session – October 17 (in-person), 2-5 pm
>
> For more about this or other upcoming workshops, see this LINK.
>
> See this LINK for general information on PRISM, research updates, invasive plant factsheets, and more.

MONARCH JOINT VENTURE
THE 2021 Monarch Conservation Webinar Series
4th Tuesday of the Month *
2:00 PM EST

The Monarch Joint Venture is partnering with the U.S. Fish and Wildlife Service National Conservation Training Center to put on another year full of informative and inspiring webinars on all things monarch. Webinars will be held live on the 4th Tuesday of the month at 2 PM EST. Each webinar will be recorded for later viewing as well. Check on the session title to register.

Future Webinar Titles:

- **October 26th** – Recovery of the Monarch Butterfly: Federal and State Legislation that can Provide Hope for this Iconic Animal
- **November 16th** – The Monarch Butterfly Fund – Supporting Monarch Conservation in Mexico
- **December 21st** – Eco-literacy and Conservation: The Convergence of Research, Policy and Education

* The November and December dates have been moved to avoid conflicting with major holidays. Please note this list is subject to change. Their EVENTS PAGE will have the most up-to-date information on the webinar series, as well as a calendar of additional monarch-related events, and information on recordings of past webinars.

DOLLY MADISON GARDEN CLUB
Lecture and Brunch
Marianne Willburn, "Big Dreams, Small Garden"
THE BARN at THE INN at WILLOW GROVE, ORANGE, VA
Wednesday, November 10
10:00 AM – 12:00 PM

See this **LINK** for more information and to register. Space is limited.

VIRGINIA COOPERATIVE EXTENSION (VCE) VIDEO LIBRARY

VCE offers a variety of **YouTube videos** on topics geared to both beginner and more advanced gardeners. Examples of topics include:

Planning Your Fall Garden
Rose Rosette Disease, Parts 1 and 2
Plant Disease Clinic: IDs and Diagnoses
Weed Identification: IDs and Diagnoses
Soil Testing Lab: IDs and Diagnoses

For these and many more videos that address specific topics or those of more general interest, see this **LINK**.