August 2022-Vol.8, No.8

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August in the Ornamental Garden

By Patsy Chadwick | August 2022-Vol.8, No.8

August is a close second to July for being the hottest, muggiest month of the year in the Mid-Atlantic area. As much as we gardeners are tempted to take a break from our gardening chores this month, unfortunately, weeds, insects, and diseases don't take a vacation. In fact, our gardens need us more than ever this month to keep them looking lush and healthy.

Pay attention to the basic needs of the garden

- **Deadhead annuals and perennials such as zinnias, cosmos, garden phlox, or salvia** to improve the appearance of plants and encourage them to continue blooming. For *Echinacea*, *Gaillardia*, and other seed-bearing plants, **stop deadheading** at this point so that birds can eat the seeds this winter. Also, keep in mind that some dried flower heads on plants such as tall sedum, globe thistle, astilbe, and coneflower can look attractive throughout fall and winter.
- **Stake or cage perennials** that flop over due to heavy seedheads, weak stems, late summer storms, or other reasons.
- **Cut back** dried flower stalks all the way to the crown of the plant and remove any browned or yellowed foliage or tattered leaves (think hostas) that have been damaged by deer, rabbits or slugs.
- **Cut back and fertilize overgrown, leggy annuals** in beds, containers, and hanging baskets to produce another flush of growth before the plants succumb to frost this fall. **Do not fertilize perennials, trees, or shrubs at this time of year**. Late summer fertilizing produces tender new growth that will probably be damaged by cold weather.
- **Monitor moisture levels** and provide supplemental water to plants as needed. In general, 1" of water applied at the soil level per week is sufficient.

- **Do not prune shrubs or trees this late in the growing season**. Pruning now will stimulate new growth which may not have time to harden off before winter sets in. So, unless you're removing a damaged or diseased limb or stem, hold off on pruning until late winter or early spring when the plant is dormant.

Don't let the weeds get out of control

While all our ornamental plants are gasping for water and respite from the heat, weeds perversely thrive under such stressful conditions. Every weed that produces seed this year means more weeds and more work for you next year. Some particularly prolific weeds include the following:

- **Common Ragweed** (*Ambrosia artemisiifolia*). This broad-leaf summer annual is the source of pollen that causes late-season allergies for many of us. Ragweed produces an amazing quantity of seeds in late August through September. One mature plant can bear between 30,000 and 62,000 seeds. Should any of the seeds become buried in the soil, they can remain viable for decades. See Virginia Tech's Weed ID website for photos and additional information on Common Ragweed.
- **Spiny Amaranth** or Spiny Pigweed (*Amaranthus spinosus*). This summer annual is capable of producing about 235,000 seeds per mature plant according to the University of Tennessee Extension's fact sheet on Spiny Amaranth. Obviously prolific, this weed also has a taproot, which is difficult to pull when the soil is dry. Wearing gloves when pulling this weed is highly recommended due to the quarter-inch long spines at the base of the leaves.

Spiny amaranth. Photo: John D. Byrd, Mississippi State University, Bugwood.org

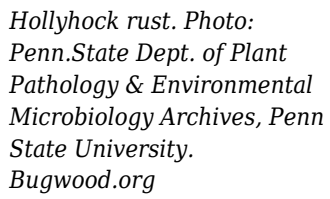
- **Common Beggarticks** (*Bidens frondosa*). This weed sports small, golden-yellow blossoms in late summer through early fall followed by seeds that have two tiny barbs designed to latch onto animal fur and clothing. If you spot this weed in your garden, be sure to remove it before the seeds mature. Otherwise, you may never get rid of it. See the University of Missouri Weed ID website for several good photos of Common Beggarticks.

Stay alert for plant pests and diseases

Just as weeds appear to thrive in sweltering heat, insect pests and diseases don't seem to be impeded by it either. Stay on the alert for such problems as:

- **Rust** – This fungal disease occurs when relative humidity is high and moisture stands on leaf surfaces for extended periods of time. Rust fungi produce masses of yellow, orange, brown, or rust-colored spores as part of their life cycle. Like powdery mildew, rust is an unsightly disease, but it rarely kills a plant outright. It will, however, stunt the plant and reduce its vigor. Rust is particularly common on ornamental plants such as asters, daylilies, dianthus, irises, hollyhocks, and phlox. For mild infections, remove infected leaves to contain the disease. The University of Massachusetts publication on Rust Diseases of

Ornamental Crops is a good source for information on controlling this disease.



Hollyhock rust. Photo: Penn.State Dept. of Plant Pathology & Environmental Microbiology Archives, Penn State University. Bugwood.org

- **Black spot** – As its name suggests, this fungus appears as round black spots on the upper sides of rose foliage. The spots are often surrounded by yellow halos. As the disease progresses, the leaves turn yellow and fall from the plant. If you leave the leaves where they fall on the soil or mulch, the fungal spores will overwinter and infect next year's roses. To contain black spot, remove all fallen rose foliage and dispose of it in the trash. Do not put it in your compost pile. The Missouri Botanical Garden website provides a detailed explanation of black spot of rose and recommends several integrated pest management strategies for containing it.
- **Fall Webworms** – A widely distributed native pest of shade trees and shrubs, fall webworms appear in mid- to late summer through early fall. They skeletonize and consume leaves inside the protection of a tent-like silken web, which they spin over the foliage they are consuming. See Virginia Cooperative Extension Publication 2808-1013, Fall Webworm, for additional information on the life cycle of this pest and methods for its control.
- **Spider Mites** — These tiny pests can inflict serious damage to flowers, shrubs and both evergreen and deciduous trees during hot, dry weather. According to the Virginia Tech publication on spider mites, they use their needle-like mouthparts to pierce the leaves of host plants and suck out the fluids from individual plant cells. This results in a stippled or flecked appearance on leaves. It may be too late to eradicate spider mites this year but note their symptoms so that you can use safe and effective controls in the future.
- **Scale Insects** – Many species of armored (hard) and soft-bodied scale species are difficult to detect unless you know what to look for. These immobile insects use their piercing-sucking mouthparts to extract fluid, causing loss of vigor, yellowing of foliage, and branch dieback to a range of trees, shrubs, and other ornamental plants. At the newly hatched or juvenile stage, scale insects are called crawlers. Depending on the species, more than one generation may be born per growing season resulting in crawlers during May and June and then again in August and September. Ladybugs, lacewings, and parasitic wasps are natural predators of scale insects. At the crawler stage, scale insects are also vulnerable to insecticides. VCE Publication 2808-1012, Scale Insects, provides additional information.

For more information on a variety of plant pest and disease treatments, see the Virginia Tech Home Grounds and Animals Pest Management Guide 2022.

Evaluate your perennials and annuals for heat and drought tolerance

Using plants that are naturally heat and drought tolerant help keep the late summer garden looking fresh and inviting. The following characteristics generally indicate good drought tolerance in plants:

- **Gray or silver-hued foliage** — The silvery color helps cool the plant and reduce water loss through transpiration.
- **Fuzzy or woolly-looking foliage** – The leaves of many gray or silver-leaved plants may also be covered with tiny hairs, giving the plant a fuzzy, woolly, or hairy look. The hairs reflect solar radiation, which helps to cool the leaf surface. In addition to slowing evaporation, they also capture moisture on the leaf surface and help offset the effects of drying winds.

Small Leaves – Many drought-tolerant plants have fine or lace-like foliage. The smaller leaf surface area offsets the loss of water through the leaves.

Threadleaf coreopsis (Coreopsis verticillata). Photo courtesy of Missouri Botanical Garden Plantfinder.

- **Thick, fleshy leaves** – The cells within the thick, fleshy leaves of some plants, particularly succulents, evolved to store water as a survival strategy during periods of sparse or no rainfall. Many of these plants are also able to store water in their stems and roots.
- **Waxy-coated leaves** – All plants have a thin waxy coating called a cuticle on their leaves, but those plants that have evolved with a thicker waxy coating are better equipped to retain water by limiting transpiration.
- **Taproots** – Plants with long taproots rather than fibrous roots are able to penetrate well below the surface of the soil in search of water.

Another important strategy is to use plant species that are native to central Virginia. These species have evolved using a variety of strategies for coping with the environmental conditions specific to this geographical area. Check out this list of Native Drought-Resistant Plants for the Charlottesville area.

Watch for signs of drought stress in woody ornamental plants

Lack of water affects plants in various ways, depending on the species of plant and the level of stress to which they are subjected. In addition to wilting, which is frequently the first sign of drought stress, look for the following signs:

- **Premature fall color on trees** – This indicates that the leaves have stopped producing chlorophyll and is a signal that the tree may be in trouble. Drought stress may be the problem but not necessarily. Repeated defoliation by Japanese beetles or other insects, for example, can stress a tree. Also, the problem could be caused by damage from weed eaters and lawn mowers or from lack of oxygen at the root level if the tree was planted too deeply. Some detective work may be required to properly diagnose the problem.
- **Leaf Scorch** – This condition appears as a browning of leaf margins and tips. It is commonly observed on deciduous trees, such as maples, oaks, lindens, horse chestnuts, dogwoods and Japanese maples, and on broad-leaved evergreen plants such as magnolias, rhododendrons, hollies, and Japanese Andromeda (*Pieris japonica*). Leaf scorch may be the result of a combination of factors, including high temperatures, drying winds, and low soil moisture.
- **Shedding of leaves** – In an effort to conserve water, some trees sacrifice their older leaves in order to divert moisture to new growth and buds.
- **Shoot dieback** – Drought may make some woody plants (trees and shrubs) more susceptible to canker diseases. These are localized fungal infections that can cause the dieback of twigs and branches. Typically, a canker appears on a tree branch or twig as a sunken, slightly discolored

lesion. Prune the twig or branch several inches behind the lesion. Do not cut into the lesion. Otherwise, you may renew or spread the fungal activity. Sterilize pruners after each cut using rubbing alcohol or a 10% bleach solution.

A drought this year may affect the health and vigor of next year's plants. Water-stressed shrubs that are forming flower buds for next year's display may produce fewer buds and smaller leaves. Fruiting shrubs, such as winterberries, may drop their berries.

Also, pay attention to evergreen species. Although water stressed, they often do not provide any clues to their condition and may stay green until it's too late.

Be alert to invasive species

Japanese stiltgrass (*Microstegium vimineum*) is an annual invasive that germinates a couple of weeks before crabgrass and flowers beginning in July into October. A single mature plant can produce about 1,000 seeds. The seeds ripen and drop to the ground between August and December and can remain viable in the soil for up to 7 years. Mowing and weed whacking it in August greatly reduces seed formation. For more information on this invasive species and how to control it, see the Blue Ridge Partnership for Regional Invasive Species Management (PRISM) fact sheet on Japanese Stiltgrass and the Invasive Plant Control Calendar in the May 2022 issue of *The Garden Shed*.

Plan ahead

Fall is the best time to divide spring or early summer-blooming plants. **Make a list now of perennials to move or divide this fall** and decide where to plant the new divisions. A little planning now will save you lots of time later when you get ready to perform this task. Plan to finish dividing plants about 6 to 8 weeks before the first hard freeze so that the roots have plenty of time to recover before the onset of winter weather.

In addition to perennials, **anticipate planting trees and shrubs later this month or in early fall** so that they have time to settle in before winter. Prepare the hole in advance so that the plant can be transferred from its container and into its permanent home as quickly as possible. Water immediately and monitor closely while the plant is getting established. Plan on watering until the soil freezes this winter.

Sow seeds in late summer for cool-weather annuals such as calendulas, Iceland poppies, primrose, pansies, violas, snapdragons, stock, or forget-me-nots. Next spring, you'll be glad you planned ahead and sowed the seeds now.

Order spring-flowering bulbs now while selections are good. If you're buying bulbs directly from garden centers or nurseries, choose the largest bulbs available. Be wary of so-called "bargain" bulbs. If the bulbs are small or of inferior quality, they may not be much of a bargain.

SOURCES:

Featured Photo: Rudbeckia 'American Gold Rush' and 'Color Guard' yucca. Photo: Pat Chadwick

Monthly Gardening Tips/Piedmont Master Gardeners

Asian Vegetables for Virginia Gardens

By Patsy Chadwick | August 2022-Vol.8, No.8

One early fall day some years ago, a visitor to my vegetable garden commented that he didn't recognize half the produce growing there. His comment startled me. But as I cast a critical eye around my raised beds, I could see his point. In addition to crops familiar to him such as kale, spinach, cabbage, and broccoli, my garden also contained Chinese cabbage, Chinese mustard greens, bok choy, tatsoi, and mizuna – crops that he considered exotic.

My visitor's random comment caused me to contemplate why I do grow so many Asian vegetables. To name just a few reasons, Asian vegetables, particularly Asian greens, are:

- A significant source of vitamins and minerals in the diet.
- Readily available as seeds or transplants in seed catalogs and garden centers these days.
- Tolerant of colder temperatures, which make them ideal choices for my fall and winter vegetable garden.
- Quick and easy to prepare in vegetable-centric meals.
- A source of high quality, fresh ingredients all year long. That's why I grow vegetables in the first place.

What are Asian vegetables?

Sometimes referred to as "Chinese" or "Oriental" vegetables, Asian vegetable varieties originated in East Asia (China, Japan, and Korea) and Southeast Asia (Vietnam, Laos, the Philippines, Thailand, Indonesia, and Myanmar) as well as in South Asia (India and Pakistan). For the most part, they are simply varieties or subfamilies of their "western" counterparts in the bean, squash, cucurbit, and cole crop families. In most

cases, they have similar growing requirements.

Display of Asian vegetables at local grocery store.
Photo: Pat Chadwick

Why are Asian vegetables important in our diets?

Asian vegetables tend to be low in calories and high in nutrients. In particular, Asian greens are excellent sources for iron, calcium, manganese, potassium, phosphorus, and vitamins A, C, and K. Moreover, many Asian greens contain potent compounds that may be beneficial in preventing cancer and other diseases.

How difficult are Asian vegetables to grow?

They are no more difficult to grow than any other vegetable. While some Asian vegetables such as yard-long beans or bitter melons require a long growing season and thrive in our summer heat and humidity, other Asian crops are fast growing and thrive in cooler temperatures. Many Asian greens, for example, are cole crops, or members of the *Brassica* family, which include our familiar cabbage, kale, broccoli, cauliflower, and Brussels sprouts. They perform well in the early spring or fall garden when temperatures are cooler. Transplants of Asian greens are usually best for spring plantings, but fall crops are typically grown from seed.

How do you use Asian vegetables?

Besides being easy to grow, Asian vegetables are versatile and add a great deal of variety to our diets. They generally require very simple preparation with little to no peeling or trimming required. They work well in dishes that can be simply prepared either raw, in salads, or quickly sautéed, stir fried, braised, steamed, or added to soups.

What are some examples of Asian vegetables?

The range and variety of Asian vegetables is quite extensive, and it would be impossible to describe all of them here. A few examples of Asian greens, root vegetables, herbs, and other miscellaneous vegetables are provided below. Note that many of these vegetables have multiple names, which tie back to the province or region within a country where they originated.

Asian Greens

Bok Choy – This vegetable may also be labeled as bok choi, pac choi, joi choi, choy sum, or pak choi, among other names. Steamed, quickly braised, stirred into soup, or stir-fried, bok choy has a mild cabbage flavor

that works well with stronger, more assertive flavors such as garlic, sesame oil, miso, ginger, soy sauce, oyster sauce, and chilies. It is characterized by its non-heading form, vase shape, deep green leaves, and sturdy white stalks. Regular (full size) bok choy grows to about 12" tall or more and is typically chopped into pieces and used in stir-fries or steamed. I personally prefer the smaller baby or dwarf bok choy varieties. Their diminutive size makes them more versatile. For example, if halved or quartered, they fit very nicely in dishes prepared en papillote (steamed in parchment paper or foil packets with seasoned fish or shrimp, herbs and other aromatics). A versatile plant, bok choy tolerates summer heat but also thrives as a cool-weather vegetable. I have grown it well into December under frost covers. It rapidly matures from seed to maturity in about 40 to 50 days.

Gai Lan – Also called Chinese broccoli, Chinese kale, or kai lan, this vegetable is similar to broccoli rabe and is grown for its tender flower buds, stems, and young leaves. It is a bunching green and does not form a head. A cool weather crop best grown in the fall, harvest it just before the flowers open. Cut out the center stem first to encourage side shoots to develop. The tender baby leaves are good in salads, whereas the older leaves may be better stir-fried. The older stalks can be tough and should be peeled and split so that they cook faster.

Mizuna – This traditional Japanese mustard green forms an upright foot-tall rosette of serrated green leaves on slender white stalks. It has a mild peppery flavor, which works well used raw in mixed green salads. Mizuna works well as a "cut and come again" salad green and is often included in mesclun mixes for both the spring and fall vegetable garden. It matures quickly, usually within 35 – 40 days, tolerates both cold and warm weather, and is slow to bolt. Because it is frost tolerant, it is a good addition to the fall vegetable garden.

Napa Cabbage – Also called Chinese cabbage or celery cabbage, this vegetable is a key ingredient in kimchi, a popular salted and fermented condiment, especially in South Korea, where it is their national dish. Napa cabbage forms a tight, upright oval head and is usually light green in color. Reddish-purple varieties are also available. Although it is not considered a true cabbage, it is cabbage-like and can be used interchangeably with regular ("Western") cabbage in most recipes. Napa cabbage is very easy to grow, especially as a fall crop, but it is subject to bacterial soft spot, which rots the head from the inside out. To prevent the problem, space them about 18" apart to increase air circulation. Monitor for evidence of cabbage moths and protect the plants with floating row covers if necessary.

Young Chinese Cabbage plants before they form oblong heads. Photo: Missouri Botanical Garden Plantfinder

Tatsoi – This member of the brassica family has rounded spoon-shaped sturdy leaves that form a beautiful ground-hugging rosette. In warmer weather, the leaves may grow more upright. Tatsoi has a mild, mustardy taste and is sometimes found in mixed salad greens. It can be eaten raw or lightly steamed, sauteed like spinach, or used in stir-fries. Tatsoi is an excellent choice for the fall vegetable garden. It grows fast and matures within about 35 to 50 days. It can tolerate cold temperatures down to about 10°F and will overwinter in a cold frame or hoop house.

Tatsoi
Photo: Forest and Kim Starr, CC BY 2.0

Asian Root Vegetables

Daikon Radishes – This root vegetable looks like a large white carrot. Larger than its European cousins, it has a milder flavor, and takes longer to mature when grown in the garden (approximately 65 days from seed compared with 30). It may be direct sown in early spring as soon as the soil can be worked or grown as a fall crop when temperatures are cooler. Daikon may be eaten raw, pickled, in slaw, or as an ingredient in stir-fries.

Ginger roots. Photo: Pat Chadwick

Ginger – Native to the humid tropical and subtropical forests of Southeast Asia, ginger is grown for the hot, pungent flavor of the rhizome (underground creeping stem), which can be used fresh, dried, ground, or preserved. It adds a spicy element to curries, preserves, baked goods, fruit salads, and teas. To grow your own ginger, look for sprouted rhizomes, which are occasionally available for sale or simply root a rhizome you buy in the grocery store. Check out the Texas A&M AgriLife Extension website for instructions on how to root ginger.

Galangal – This root (or rhizome) is commonly used in Thai, Indonesian, and Malaysian cuisines. It is sometimes mistaken for ginger root but has a different taste profile. Whereas ginger has a pungent spicy flavor, galangal has a sharp, citrusy, almost piney flavor. The two cannot be used interchangeably. Also, galangal flesh is harder than that of ginger and must be sliced rather than grated. *Alpinia officinarum* (also called lesser galangal) is typically the variety found in grocery stores. While it is possible to grow your own galangal, it is not hardy and must be grown in containers and overwintered indoors.

Asian Herbs

Lemongrass – Used to flavor soups, curries, teas, stir fries, chicken dishes and more, lemongrass has a delicate lemony flavor and is a key ingredient in Thai cuisine. The plant hails from India and tropical areas

of Asia where it thrives in full sun and moist soil. In the right growing conditions, it can grow quite large – 3' to 5' tall and 4' wide. Grow it as an annual because it is not hardy in our USDA Zone 7 and will succumb to the first frost. It can be successfully grown in containers and overwintered indoors.

Perilla – A member of the mint family, perilla has a complex flavor that is difficult to describe. It is used in sushi, wraps, and in salad mixes. The flavor is reminiscent of a combination of mint, basil and perhaps cinnamon or even cilantro. Perilla is used in a variety of ways in Korean cuisine and was introduced into Japan at some point, where it eventually led to a variety known as 'shiso' (*P. frutescens* var. *crispa*). Shiso has a more jagged-looking leaf structure than Perilla and a stronger taste. The leaves are very attractive and come in bright green or deep red, depending on the variety. Both perilla and shiso are used in sushi, wraps, and in salad mixes. Seeds should be direct sown in the garden after the last frost date in spring.

Thai Basil – Has small, pointed leaves and a pungent, spicy, anise-like flavor. Its flavor profile differs somewhat from Italian basil varieties and the two are not interchangeable. Compared with other basil types, Thai basil keeps its flavor at higher cooking temperatures and is often featured in Asian dishes where its flavor can be highlighted. The stems and flowers are an attractive purple color, which also differentiates it from other basil varieties. In addition to being an ingredient in Thai salads, stir-fries, and curries, it also appears as an accompaniment to Vietnamese pho. Like any other basil, it is a tender herb that should be planted in full sun after the last frost date in spring.

Other Asian Vegetables

Asian Eggplant – A warm-weather crop, Asian eggplants have a thin, tender skin, which makes peeling optional. The creamy flesh is milder in taste and less bitter than that of the large, globe type varieties and doesn't absorb as much oil. Depending on the variety, Asian eggplants come in shades of lavender, purple, green, and white and are typically long and narrow in shape although some are rounded or oval. Start seeds of this warm-weather plant indoors about 6 to 8 weeks before the last frost date. Transplant the seedlings into the garden and give them plenty of space between plants. They can grow quite large and, in most cases, benefit from being staked before the fruits cause the plant stems to topple over from the weight. Like their Italian cousins, Asian eggplants are subject to flea beetles, which can be either crushed by hand or excluded from plants with floating row covers. Usually, the beetle damage is cosmetic only.

Long, narrow Chinese eggplants. Photo: Pat Chadwick

Snow Peas – This cool weather crop is an essential ingredient in many Asian recipes, especially stir- fries. The flat pods take less than a minute to stir-fry and combine readily with shrimp, chicken, or beef. They also show up raw in salads and on crudite´ platters with dips. This cool weather crop should be direct sown in the garden as soon as the soil can be worked in early spring or sown in late summer for a fall crop. They require about 60 to 70 days to mature.

Yard-Long Beans – A friend of mine introduced me to yard-long beans many years ago and generously shared some of her seeds with me. I dutifully planted them and was stunned to see the slender, stringless pods on these productive plants grow to nearly 3' in length! Easy to grow, it only takes a few seeds to produce an abundant crop. These unusual beans from Taiwan are just one example of the broad range of bean species from Asia. The Kitazawa Seed Company based in Oakland, California describes beans as an essential ingredient in cuisines all across Asia. From dried red adzuki beans, which are used in Japan in confectionary paste and in soups, to mung beans, which are sprouted and used in salads and stir fries,

there’s tremendous variety among them.

SUMMARY

In years past, Asian vegetables were considered oddities in the American diet. But as we’ve become more familiar with them, we realize that, in fact, most of them are merely variations of vegetable species that are familiar to us. Easy to grow, flavorful, nutrient rich, and easily prepared for consumption, Asian vegetables have earned their place in the mainstream American diet.

Featured Photo of assorted Asian vegetables. Photo: Pat Chadwick

RESOURCES

Grow Great Vegetables in Virginia (Wallace, Ira, 2020).

Mastering the Art of Vegetable Gardening (Mattus, Matt, 2018)

Kitazawa Seed Company (https://kitazawaseed.com/)

University of California Agriculture and Natural Resources Asian Vegetable Primer.

University of Kentucky Center for Crop Diversification Crop Profile CCD-CP-96 Ethnic Vegetables: Asian.

Purdue University Cooperative Extension Service Publication HO-187-W Chinese Vegetables

Milkweed in the Garden

By Susan Martin | August 2022-Vol.8, No.8

Gardeners often lament the “weed” part of the common name of *Asclepias* – milkweed. This descriptor seems to diminish not just the beauty, but the acceptance of this plant as a worthy selection for home gardens. In 2017, butterfly weed (*Asclepias tuberosa*) was selected as the Perennial Plant Association’s Perennial of the Year. This designation raised the profile of milkweed as a native plant that is not just ecologically important, but beautiful as well.

Around this same time, in 2016, *The Garden Shed* published its first article on *Asclepias*. In the last six years, there has been a surge of interest in native plants, as well as an increased appreciation of the relationship between native plants and the insects that have evolved with them. The most well-known example of an evolutionary relationship between a larval host plant and an insect is the relationship between milkweed and the monarch butterfly (*Danaus plexippus*). **On July 21, 2022, the International Union for the Conservation of Nature (IUCN), a Switzerland-based conservation organization that monitors the status of wildlife, added the migrating monarch butterfly to its “red list” of threatened species and categorized it as “endangered” — two steps from extinct.** Gardeners are eager to join the effort to create monarch habitats by planting milkweed and other native pollinator plants, in both public/community spaces and in home ornamental gardens.

This article will focus on **milkweed species native not just to North America, but to areas as specific as zip code, county, state, or regions,** with a reminder on how to use several native plant databases. I will also present a first-hand example of starting milkweed from seed, and how to assess the characteristics of different milkweeds and their suitability for particular site conditions. We will also briefly look at some of the

current research on tropical milkweed (*A. curassavica*).

A REVIEW OF NATIVE PLANT DATABASES

I used **three native plant databases** to identify milkweed species native to my area, which is zip code 22901, Albemarle County, Virginia. **These databases are included in the Source list** at the end of the article. You can also broaden your search to include plants native to states, or to regions. After comparing the lists, you can then choose which "native" definition provides the plants best suited to your taste and to your site conditions. Site conditions might include characteristics such as full-sun, acidic soil, wet in spring, and heavy deer and rabbit pressure.

For this article, I'll concentrate on five milkweeds: the first four are native to zip code 22901, and whorled milkweed is native to Albemarle County:

- Common (*syriaca*)
- Swamp (*incarnata*)
- Purple (*purpurascens*)
- Butterfly weed (*tuberosa*)
- Whorled (*verticillata*)

MILKWEED OVERVIEW

Monarch caterpillar on Common Milkweed (A. syriaca) Photo: Melissa King

There are 72 species of milkweed native to the U. S. and Canada, with native species in all the lower 48 states. Common milkweed (*A. syriaca*) is the most well-known species of native milkweed. Milkweeds are named for the milky sap in their stems, leaves, and pods. This sap contains latex and complex chemicals called **cardenolides**. The cardenolides make the plants unpalatable to most creatures other than milkweed specialists.

Monarch butterflies lay their eggs only on milkweed plants; larvae or caterpillars eat the milkweed leaves for food. **Cardenolide analysis has shown that 85% to 92% of monarchs overwintering in Mexico had eaten common milkweed (*Asclepias syriaca*) as caterpillars.** Once they mature to the butterfly stage, monarchs draw the nectar from milkweed flowers and from other nectar-producing flowers.

Monarch butterfly emerging from chrysalis Photo: Susan Martin

WHICH MILKWEED IS BEST?

Over the past two decades, monarch numbers east of the Rockies have fallen by 80-90%. The decline is partly attributed to shrinking milkweed habitat, especially in the Midwest. A team of Agricultural Research Service (ARS) and university scientists monitored the egg-laying preferences of female monarch butterflies on 9 different milkweed species. Although female monarchs will lay eggs on all nine species, swamp milkweed *(A. incarnata)* and common milkweed *(A. syriaca)* averaged the highest number of eggs. The findings indicate that while female monarchs do make choices, they don't specialize in reproducing on a single milkweed species. What's more, their egg-laying preference can change according to the time of season, the prevalence and habitat of the milkweed species they encounter, and the plants' robustness and maturity. For these reasons, **the researchers caution against focusing restoration efforts on a single preferred species.**

COMMON MILKWEED – *Asclepias syriaca*

This species thrives in **full sun in average to well-drained soils**, and is commonly found in pastures, field edges, and along roadsides. It grows 4-6' tall. It has a long bloom period, from June to August, when it bears **large clusters of fragrant, dusty pink flowers** in spherical umbels atop the plant. The ovate leaves are approximately 6" long and are borne on a single stalk. The undersides of the leaves are covered with short woolly hairs.

Growing Milkweed from Seed

In fall of 2020, another master gardener gave me a few dried pods of common milkweed (*A. syriaca*). I researched how to grow milkweed from seed and looked at an online video about how to separate the seeds from the silk. The instructions were to place the dried pods (the floss had already started to burst) with a few coins in a paper bag and shake. I had to add quite a few coins before I began to see some results. I then cut a diagonal hole in the bottom corner of the bag as instructed and after some shaking, the separated seeds came out. **Asclepias seeds need cold stratification to germinate, which means that a period of 30-60 cold days is needed to wake the seeds from dormancy.** It's easy to find instructions online about how to

do this indoors (see one such site from the University of Florida). **The cold stratification process is naturally achieved by planting the seeds outdoors in the fall and exposing them to the natural freeze/thaw cycles of a Virginia winter.** This is what I did, and I think I was lucky in a couple of ways: first, the seeds were already brown and hardened and 2) my planting date of November turned out to be optimal. (See this link for a video on how to remove seeds from a dried pod that has not yet burst.)

The planting spot I prepared has acidic clay soil and is in full sun. I raked the soil smooth, added some compost because the clay soil is compacted, raked it smooth again, added the seeds, covered them very lightly with soil, and watered. Mark the spot so that you remember where to look the following spring. Be aware that common milkweed seedlings may not appear until late April in Zone 7. Unfortunately, I underestimated the resiliency of milkweed seedlings and did not thin them sufficiently. **Spacing between plants provides better air circulation which helps mitigate problems from fungus such as downy mildew.**

An Overabundance of Milkweed

Common Milkweed (A. syriaca) Photo: Susan Martin

Common milkweed spreads through seed dispersal and through underground rhizomes. Of the five milkweeds being discussed, **common milkweed is the most aggressive spreader.** This means that you need to **consider whether the spot you've chosen will give the milkweed enough room to spread.** I am growing a large patch of common milkweed within a pollinator bed that includes other native plants. Containment is an issue because I've planted a spreading plant within a bordered area. **Common milkweed is usually recommended for open areas without defined borders.** I am digging up mature milkweed at both ends of the milkweed patch, as well as any small plants that appear outside the patch. **When the rhizomes are severed during hoeing or pulling, a new plant can form from each rhizome segment.** If possible, dig up the entire plant, including the roots, and remove as much of the rhizome as possible. This is easier to do when the plants are young, and the soil is moist. I also cut back milkweed to thin the patch and allow air to circulate. **This cutting-back must be done before the monarchs start laying eggs on the undersides of the leaves, or after the egg-laying season.** Usually, one egg is laid per plant, and it can be very difficult to spot. There are multiple generations of monarchs, and the first monarch eggs in Virginia, zone 7, are generally observed in April. Many monarch caterpillars were visible last year on our milkweed patch in September. See this link to the "Annual Life Cycle" of the monarch.

Monarch Egg on Common Milkweed Photo: Courtney Celley/USFWS (CC BY 2.0)

If you want to save the pods but not allow the seeds to disperse, tie a rubber band or a string around the pod as it starts to harden and dry in the fall. Or you can just cut off the pods to prevent self-seeding.

Flowering

It takes two growing seasons to get blooms from *A. syriaca*. I planted seeds in November 2020; seedlings appeared in April 2021; those plants flowered in June 2022.

Is Milkweed Enough?

The best habitat for monarchs contains a variety of native milkweeds as well as native nectar plants. This combination provides adult monarchs with a food source throughout the season. The Xerces Society's "Monarch Nectar Plant Guides" offers a list of suggested nectar-producing plants by state. You might then check those recommendations against more local native plant databases, and against your own site conditions.

Monarch on Monarda fistulosa Photo: Jeannie Holden

OTHER MILKWEED SPECIES

Swamp Milkweed (*A. incarnata*)

Swamp Milweed (A. incarnata) Photo: Susan Martin

Swamp milkweed grows best in **wet conditions with full sun or partial shade** in soils with neutral to acidic pH. It is native to wet sites along streams, ponds, or bogs but adapts to drier sites in moist clay or loam soils. It can reach a height of 4-5’ and should be spaced 2-3’ apart. Lance-shaped, smooth leaves are 3-6” long. **The flowers are much more ornamental than the flowers of common milkweed.** Five-petaled pink to rose-purple flowers mature in mid-spring and last into early fall. This species spreads through rhizomes and wind-blown seeds but it is not an aggressive spreader. **Its clump-forming habit is a nice addition to a perennial garden.**

I planted swamp milkweed plants in a site that is very wet in spring and then dries out during the summer months. Although the plants bloomed nicely the first year, they didn’t survive the winter. I assume they may have been weakened by the dry conditions. The plants were also heavily attacked by oleander aphids which devoured all the blooms in two days. These alien aphids commonly attack other species of milkweed as well. A strong stream of water will help dislodge the aphids; insecticidal soaps are also recommended for heavy infestations. Be mindful that both these treatments will damage monarch eggs along with the aphids. Ladybugs and other beneficial insects may control smaller infestations. Swamp milkweed seems to be finding a place in general nurseries in addition to native plant nurseries.

Purple Milkweed *(A. purpurascens)*

Purple Milkweed (A. purpurascens) Photo: Katja Schultz (CC BY 2.0)

This species is similar in appearance to common milkweed, but its flowers are a **more vibrant hue of purple to deep pink, and they bloom from late spring to early fall.** The flowers are larger than those of swamp milkweed. There were conflicting reports by well-known sources on whether purple milkweed is rhizomatic. This is an important point when trying to identify milkweed that would be easier to contain in a garden setting. According to the U.S. Forest Service, Eastern Region:

"*Asclepias purpurascens* is a perennial herb emanating from a stout **non-rhizomatous** rootstock, ranging to one meter in height."

I asked Ian Caton of Wood Thrush Native Nurseries if he had experience with this plant. Ian could attest that **purple milkweed is not rhizomatic; it spreads by seed. As a less-aggressive spreader, purple milkweed is well suited to a perennials garden.** In the wild, its populations are described as having a wide range throughout the eastern and midwestern U.S., but the populations are usually small and scattered. *A. purpurascens* is most commonly found along woodland edges and roadsides in mesic to well-drained soils that are not high in organic material. **It prefers a site with morning sun and afternoon shade.**

Unfortunately, purple milkweed seeds and plants are not readily available in the trade. Native nurseries are probably the best source for plants, and there are some seed sources online. See this list of native plant nurseries provided by the Virginia Native Plant Society.

Butterfly Weed (*A. tuberosa*)

This milkweed has been embraced for its bright orange flowers, its manageable size for perennial gardens, and its less aggressive spreading habit. It is naturally found in poor, coarse soils of dry fields, rock outcrops, and other steep slopes. **The plant is easily grown in average, dry to medium, well-drained soil in full sun.** Crown rot can be a problem in wet, poorly drained soils. It usually grows 1.5-3’ tall with multiple stems, and has a long **bloom season, from June to early September.** Deadheading may stimulate a second flush of flowers about a month after deadheading. This species is one of the best nectar plants for a wide variety of pollinators. **Mature plants may freely self-seed in the landscape if seed pods are not removed prior to splitting open.** Seeds need a three-month cold stratification; in November, plant the seed outside and it will easily germinate the following spring. The plant is difficult to transplant because of its **long taproot. It does not spread by rhizomes.** Unlike many of the other milkweeds, butterfly weed has a water translucent sap rather than a thick milky sap. Although deer resistant, it may be eaten by rabbits. You may want to mark this plant’s location at the end of the season because it can completely disappear in winter and then reappear in late spring. Like other milkweeds, it is susceptible to attack by the invasive alien oleander aphids. This plant is widely available commercially.

Butterfly Weed (A. tuberosa) Photo: Susan Martin

Whorled (*A. verticillata*)

Whorled Milkweed (A. verticilatta) Photo: Wikimedia Commons, Mason Brock, Public Domain

Whorled milkweed naturally occurs in sandhills, thin woodlands, and barren outcroppings. **It is drought resistant, preferring dry, nutrient-poor conditions with low competition from other plants. Although it flowers best in full sun, it can tolerate some shade.** It spreads by rhizomes and seed but is not considered to be an aggressive spreader. Its flowers are delicately shaded from white to pale green. **A long bloom time, from June through September**, and a clump forming habit make this an attractive plant for **rock gardens or dry sunny hillsides.** Its unbranched, single stems bear 2-3" long, narrow leaves arranged in whorls along the stem. The plant grows 1-3' tall. In addition to being a host plant for the monarch butterfly, whorled milkweed attracts a variety of nectar-seeking insects, including bees, wasps, flies, butterflies, and skippers. Deer avoid this plant because it is one of the more toxic milkweeds. It is highly toxic to livestock and is considered a weed in range areas. I haven't found this plant at general nurseries; native plant nurseries would be good options. This species will easily grow from seeds planted outside in the fall.

Tropical Milkweed (*A. curassavica*)

I am going to spend some time discussing tropical milkweed because it is easy to find at general nurseries and it is sometimes commercially labeled “butterfly weed” or simply “milkweed.” Native to central and south America, it is also commonly called bloodflower and scarlet milkweed. It has become a popular selection because it is a very attractive plant with a long bloom period of brightly colored red and orange flowers, and it doesn’t have the spreading characteristic of some of the native milkweeds. It is very attractive to butterflies, bees, and other insects, as well as hummingbirds. Monarch butterflies use this species as a host plant. However, monarch advocates such as Monarch Joint Venture and Xerces Society are vehement in their warnings **NOT to plant nonnative milkweeds.**

Tropical Milkweed (A. curassavica) Photo: Kaldari CCO1.0

Monarch advocates are concerned that **tropical milkweed may interfere with monarch migration and reproduction.** In northern areas, *A. curassavica* grows later in the season than native milkweed species. More research is needed to determine whether the presence of tropical milkweed may encourage monarchs to breed at a time when they should be migrating.

A protozoan parasite of monarch butterflies, *Ophryocystis elektroscirrha* (OE) can be carried over on tropical milkweed when it does not die back in winter. Native milkweeds die back after blooming, and the OE parasite dies along with them. Much of the controversy around tropical milkweed centers on whether the **effects of tropical milkweed on monarchs extend beyond USDA Hardiness Zones (9-10) where tropical milkweed survives the winter.** This is a complicated question and depends on the abundance of non-migratory monarchs relative to the entire monarch population, and the degree of contact between migratory and winter-breeding monarchs.

According to a study from the NIH in 2019:

Conclusion: Our study provides evidence that exposure to tropical milkweed can increase monarch reproductive activity, which could promote continued residency at year-round breeding sites and decrease monarch migratory propensity.

The study also notes that year-round breeding activity is associated with high local densities and **greater transmission of the debilitating protozoan parasite OE.**

Climate Change Effects

Scientists are also looking at the higher concentrations of cardenolides that occur in tropical milkweed. Cardenolides are the toxins that monarchs ingest from milkweed. Studies jointly conducted in 2018 by researchers at Louisiana State University and the University of Michigan looked at the effects of climate change on monarchs and milkweed. **They found that warmer climate increases the potency of cardenolides to levels that may become detrimental to the monarchs themselves.**

Faldyn and Elderd found that the local warming associated with climate change can produce chemical changes in milkweed that in turn affect monarch butterflies when they and their larvae feed on certain

species of this plant, particularly the nonnative milkweed, Asclepias curassavica.

On the other hand, **some monarch advocates are in favor of tropical milkweed.** They point out that the most pressing threat to monarchs is extreme habitat loss, and tropical milkweed could help increase habitat because the species is available and easy to grow. More research is needed to address the warnings some scientists have raised about this species.

SUMMARY

This article concentrated on identifying Albemarle County native milkweeds that would be good candidates for inclusion in home gardens. All these species act as larval hosts to the monarch butterfly and offer nectar-rich flowers attractive to many types of insects. The milkweed species were evaluated in terms of their spreading characteristics, as well as their requirements for moisture, light, and soil type. Some of the more interesting milkweed candidates are not easily found in the trade at this point, but all the species may be seed-grown outside in the fall to achieve the required cold period prior to germination. Nonnative tropical milkweed was also discussed. While more research is needed on tropical milkweed's effect on monarch reproduction and migration, encouraging the selection of a nonnative species seems to be going against the learning curve on how to promote an ecosystem based on the evolutionary relationship among native plants, insects, and wildlife.

FEATURE PHOTO: Common Milkweed (*A. syriaca*) in Garden. Photo: Susan Martin

SOURCES

"Asclepias – Or How I Learned to Love Milkweed," *The Garden Shed,* June 2016.

Native Plant Finder by Zip Code, National Wildlife Federation (ranked by the number of butterfly and moth species that use them as host plants for their caterpillars)

Piedmont Virginia Native Plant Database, Albemarle.org (by plant categories in VA by county or state)

Native Plant Finder, Virginia Department of Conservation and Recreation (plants native to Virginia according to 3 regions: Mountains, Piedmont, and Coastal)

"Interactions with Milkweed," Monarch Joint Venture

"Which Milkweeds Do Monarchs Prefer?" USDA

"Harvesting Milkweed Seed: A Pod and a Plan," Xerces Society

"How to Collect Milkweed Seeds (Without the Fluff)," SaveOurMonarchs Foundation

"If you plant it, They will come," University of Florida

"Milkweed is taking over my perennial garden. How can I save some for the monarch butterflies but keep it from spreading?" University of New Hampshire Extension

"Annual Life Cycle," Monarch Joint Venture

"Monarch Nectar Plant Guides," Xerces Society

"*Asclepias incarnata*," NC State Extension

"Featured Creatures: Oleander Aphid," University of Florida

"*Asclepias purpurascens*," U.S. Forest Service

"Conservation Assessment for Purple Milkweed *(Asclepias Purpurascens)*," USDA Forest Service, Eastern Region, 2003

"Native Plant Nurseries," Virginia Native Plant Society

Ian Caton, Wood Thrush Native Nursery

"Butterfly Weed, *Asclepias tuberosa*," University of Wisconsin Extension

"Butterfly Weed (*Asclepias tuberosa* L.)," U.S. Forest Service

"*Asclepias verticillata*," NC State Extension

"*Asclepias verticillata*," Lady Bird Johnson Wildflower Center Plant Database

"Tropical Milkweed – A No-Grow," Xerces Society

"Is Tropical Milkweed Killing Monarch Butterflies?" Monarch Butterfly Garden

"Exposure to Non-Native Tropical Milkweed Promotes Reproductive Development in Migratory Monarch Butterflies," NIH, National Library of Medicine, National Center for Biotechnology Information

"Global Warming Can Turn Monarch Butterflies' Favorite Food into Poison," Science Daily, 4/8/2018

Q&A Related to Research About Tropical Milkweed and Monarch Parasites," Monarch Joint Venture

"UGA research on milkweed breeding featured on the cover of HortScience," University of Georgia CAES Newswire 7/29/2021

"A Closer Look at Monarchs and Milkweed. Latest Information from Xerces," Kim Eierman, Ecobeneficial, 2014.

Upcoming Events

By Erin Hall | August 2022-Vol.8, No.8

2022 Albemarle County Fair

Friday, August 4-6 | 4:00 – 9:00 pm

Saturday, August 6 | 10 am – 9:00pm

Sunday, August 7 | 10 am – 9:00pm

James Monroe's Highland |Admission: $5, Children under 6 are free

Calling all home gardeners, brewers, bakers, beekeepers, artists, crafters, and viticulturists! Join Extension Master Gardeners in participating in the Albemarle County Fair by submitting an entry. Entries will be accepted from 4 to 8 p.m. Wednesday, August 3, the evening before the fair opens at James Monroe's Highland in Charlottesville. Drop off all entries at the Home Arts and Agriculture building. Judging will take place the next day, and ribbon winners will be displayed throughout the fair.

When you come to the fair, stop by the Piedmont Master Gardeners' mobile Help Desk for answers to your gardening questions.

CENTER FOR FOOD SYSTEMS AND COMMUNITY TRANSFORMATION
VIRGINIA TECH

presents

Growing Possibilities for Sustainable Food Systems from Campus to Community:

Reflections from the University of Kentucky (UK) Food Connection

Monday, August 8, 2022 11am-12pm

Join in person: 1890 Litton Reaves Hall, 175 West Campus Drive, Blacksburg, VA (no registration required)

Join online: https://tinyurl.com/UKFoodConnection (follow the link to register)

The University of Kentucky (UK) Food Connection is an applied food systems center that serves farmers, food producers, students, and community members by supporting the development of vibrant and sustainable food systems on the UK campus and across Kentucky. Rooted in the College of Agriculture, Food and Environment at UK, the Food Connection supports their land-grant mission through transdisciplinary education, high-impact service and outreach, and grounded research on regional and regenerative farming and food systems. Please join us for an engaging overview and discussion about their areas of work and community partnerships that are central in cultivating sustainable food possibilities from farmgate to kitchenplate.

Tree-of-Heaven & the Spotted Lanternfly Webinar

Wednesday, August 17 | Noon – 1:00 pm | Free: Register

Online Event | presented by Blue Ridge PRISM

Preddy Creek Tree Walk presented by Charlottesville Area Tree Stewards
Tuesday, August 23rd from 9:30 to 11:30

— Please note this walk is geared for adults. Limit of 12 people – **Register here**

–Preddy Creek Trail Park, 3690 Burnley Station Road, Charlottesville, VA 22911

Preddy Creek has a remarkable array of trees, some of which are not often seen in Albemarle County, such as American wild plum, shingle oak and butternut. Join Tree Steward Mary Lee Epps on this walk of about two miles on gently sloping or relatively level woodland trails, much of it along Preddy Creek. The focus will be on tree identification and interesting aspects of the trees we will be seeing. Long pants and long sleeved shirts encouraged because of ticks, poison ivy, etc. Bring water and a snack if desired. We will meet at large map board by restrooms and adjacent to parking lot. Thundestorms cancel.

Coming up next month→→

Pen Park Tree Identification Walk presented by Charlottesville Tree Stewards

–Sunday. September 4th from 9:00 to 11:00

–Limit of 15 people. **Register here.**

The Pen Park fitness trail provides a good introduction to the beauty and the challenge of encouraging native tree populations. Join Tree Steward Dana Denbar on this easy ramble over a half mile distance, on a gently sloping paved trail. Learn how to identify 12 Virginia native tree species.

Garden Basics: The Fall Vegetable Garden

Saturday, September 17 @ 2:00 pm – 4:00 pm
Trinity Episcopal Church, 1118 Preston Avenue
Charlottesville, 22903

Free! Presented by Piedmont Master Gardeners

RSVP Here!!

Vegetable gardening does not need to stop when the weather turns cool. Discover how you can extend your harvest through the fall. You will learn about: when to start your fall garden; cool weather crops; overwintering. Garden Basics classes are…

Find out more »

My Favorite Native Plants

By Bernice Thieblot | August 2022-Vol.8, No.8

As a gardener, if you've ever been asked to name your favorite plants, you know that's not easy—the list just keeps getting longer. More than 600 native plant species may be found at The Quarry Gardens ("QGS") at Schuyler where I spend much of my time, so I don't want for choice.

For this article I have chosen among **volunteers**—lovely native plants that flower at the QGs naturally, exclusive of the hundred or so species we've added to fill out ecosystems within the gardens. Such volunteers are gifts.

Delicate **Rue anemone** (*Thalictrum thalictroides)* in the buttercup family, may be the longest blooming of the spring ephemerals. It shines in semi-shade in the spring woodland, often peeking from rock crevices among oaks, hickories, and maples. It is easily cultivated in wildflower gardens, propagated by cutting, division, or seed, and once established will spread via a thin, tuberous root system. Plants and seeds are available from reputable native plant nurseries—ones that don't collect wild plants.

Rue anemone. Photo: Bernice Thieblot.

Perfoliated bellwort/Merry bells (*Uvularia perfoliata),* is so named because its pointed oval leaves are pierced by the stem. Each main stem has a single lemon-yellow bell-shaped terminal flower, which hangs downward. A member of the lily family, it spreads freely in woodlands nearest the quarries. In the same area, we find a small colony of **Mountain bellwort** (*Uvularia puberula)* — disjunct, but perhaps here because of our proximity to the Blue Ridge; it prefers a dryer site than *U. perfoliata.* The slightly larger flowers are born along the stems rather than terminally. Both plants are small, growing no more than a foot high; their delicate young shoots are said to be a substitute for asparagus when cooked—but we wouldn't dream of it.

Perfoliated bellwort.
Photo: Bernice Thieblot

Hyssop-leaved skullcap.
Photo: Bernice Thieblot

Three **skullcaps** may be found at QGs: **Hairy skullcap**, (*Scutellaria elliptica var. elliptica)*; **Hyssop-leaved skullcap** (*Scutellaria integrifolia)*, and **Showy skullcap** (*Scutellaria serrata)*. In the mint family, all produce charming small blue helmet-shaped blossoms in the gap between spring ephemerals and summer flowers. I have difficulty telling them apart. Mt. Cuba Center cultivates a fine display of Showy skullcap and calls it under-appreciated as a garden plant—it will grow in moist or dry condition in sun or filtered shade—but it is not easy to find in the trade. A new, cultivated cross of two Virginia natives — *S. serrata* and *S. incana* — called 'Appalachian Blues' may soon be more available.

The low-growing **Showy orchis** (*Galearis spectabilis)* is true to its name, with lovely hooded, bicolor lavender and white blossoms appearing in April and May. The flower stem rises between two large, fleshy oval basal leaves. Uncommon and slow growing, these orchids want moist, humusy soil in dappled shade. The lip petal has a hole at its base which leads to a nectar-containing spur visited by many kinds of bumblebees. As with other orchid species, showy orchis requires the presence of certain fungi in the soil, which makes it difficult to grow in the home garden, so attempts to transplant it from the wild are doomed. Ours do not appear every year, so finding one is a special treat.

Showy orchis. Photo: Bernice Thieblot

Bluets
Photo: Bernice Thieblot

Diminutive **Quaker ladies/Bluets** (*Houstonia caerulea),* with their modest tufts of pale azure, four-petaled flowers, can pop up in the most unexpected places, including lawns and stumps. (I found one in my raised vegetable bed.) They bloom for three weeks or more, beginning a bit later in spring than other ephemerals. Usually found in moist woodlands, they can be charming when planted in a rock garden with some shade. Quaker ladies reseed freely, and clumps may be transplanted easily on a cloudy day.

Curlyheads (*Clematis ochroleuca)* is a subshrub in the buttercup family that bears fuzzy, pendulous, solitary, bell-shaped flowers with curling edges in late spring. We find them in at least six locations, encouraged by the high pH of much of the QG's soil. Out of bloom, the leaf shape readily identifies the plant as a clematis, as does the highly ornamental whorled seed pod. Outshone by clematis cultivars, it is almost unknown in the trade, but can be grown from seed.

Curlyheads. Photo: Bernice Thieblot

In summer, the brilliant white blossoms of **tall thimbleweed** (*Anemone virginiana)* stand out on the edges of shaded woodlands. Among handsome serrate leaves, the stems shoot up to two feet or more. As the petals drop, the reason for the name is revealed in a thimble-shaped cluster of pistels, which matures to a cottony tuft that explodes in autumn. Less aggressive than other anemones, it is nevertheless easily grown in a variety of settings.

Tall thimbleweeds
Photo: Bernice Thieblot

Southern slender ladies' tresses. Photo: Devin Floyd

Southern slender ladies' tresses orchids (*Spiranthes lacera* var. *gracilis)* are found in a variety of open habitats and are widely distributed in the eastern half of the U.S. We typically find them among and on top of boulders, blooming in late summer/early autumn. The leaves usually wither before flowering. The flowers are pollinated by a variety of long-tongued bees. In years when they bloom here, they may be numerous. Nodding Ladies' tresses orchids (*Spiranthes cernua)* have been found in wetter areas.

Another late-season gem is **Cardinal flower** (*Lobelia cardinalis)*. This one is easy to find in the trade, but hard to keep. Though it is said to be a short-lived perennial, we've found through cultivation that it's best to think of it as an annual and encourage it to reseed. Discovering it growing naturally on a shady stream bank was a clue to cultivating it: It wants a consistently moist soil, but can't reseed successfully in a low place where fallen leaves collect.

Cardinal flower. Photo: Bernice Thieblot

Rose pink. Photo: Bernice Thieblot

Rose pink (*Sabatia angularis)*, a kind of gentian, is a delight to find in late summer with its showy, fragrant flowers. It's a biennial, with blooms emerging from a basal rosette established in the previous year. The tiny seeds are readily spread by wind so that we find it scattered in small colonies along woodland edges.

It is in the nature of native plants to appear unbidden where they want to grow. Sometimes all that's needed to find them is to look for them. In woodlands and on woodland edges, at the rough edges of lawns and agricultural fields, in seldom-mowed rights of way, and in other neglected spaces where exotic invasives have not smothered them, you might find your own favorite native plants.

SOURCES:

Ladybird Johnson Wildflower Center

Mt. Cuba Center

Missouri Botanical Garden

North Carolina State University Extension

Quarry Gardens at Schuyler

Center for Urban Habitats

The Healthy Virginia Lawns Program

By Cathy Caldwell | August 2022-Vol.8, No.8

It's not too early to start thinking about fall lawn care and restoration in our area. Did you know that the Master Gardeners offer a program to help you with that task? It's called Healthy Virginia Lawns, a joint venture of Virginia Cooperative Extension and the Virginia Department of Conservation and Recreation. Healthy Virginia Lawns will give you a customized, science-based roadmap to a greener landscape that protects water quality, wildlife, and other resources along the way.

The process begins with an onsite visit by Piedmont Master Gardener volunteers. They will assess the condition of your lawn, consult with you about your goals, measure the area of your lawn and collect soil samples for testing by Virginia Tech. They may also suggest small changes in mowing, watering, and landscaping practices that can yield big results for your lawn and the environment.

A Master Gardener volunteer takes a soil sample.

After receiving the soil test results, the Master Gardeners will provide a customized nutrient management plan that will help you achieve a healthier lawn while avoiding excessive use of fertilizer and other chemicals. Too often, homeowners and professional lawn-care services in our area indiscriminately apply fertilizers, pesticides, and herbicides to lawns without a prior soil test or site evaluation. Among other impacts, this can increase nutrient pollution in local waterways, which

in turn causes oxygen-starved dead zones in the James River and the Chesapeake Bay. Nutrient pollution is the chief threat to the Bay and its valuable wildlife and fisheries.

The Healthy Virginia Lawns program accepts applications from April 1 through October 1. To schedule a lawn assessment, go to pmgarchives.com and find Healthy Virginia Lawns under the Gardening Resources tab. Download and complete the application form and submit it with a check for $25 (made payable to Treasurer, Virginia Tech) to cover the cost of the site visit, program materials, and one soil test. The application and the check may be submitted in person or by mail to:

Virginia Cooperative Extension – Albemarle Office
5th Street Albemarle County Office Building, 2nd floor
460 Stagecoach Road
Charlottesville, VA 22902

A video on the website explains what you can expect from Healthy Virginia Lawns. For more information, contact Virginia Cooperative Extension at 434-872-4580 or healthylawnsalbemarle@gmail.com.